STRUCTURAL GENERAL NOTES

GENERAL
1. Dimensions and elevations shown on the structural drawings are obtained from the architectural drawings available prior to release of Contract Documents. Layout of building foundations or other items shall be based on the Architectural, Civil and Structural drawings. Any errors, inconsistencies or omissions in dimensions shall be forwarded to the Architect in writing for resolution.
2. The structural design is based only on the structure in its completed state. The Contractor and his subs shall take whatever precautions are necessary in their opinions, including but not limited to temporary bracing, shoring and needling, to withstand all horizontal and vertical loadings that may be encountered during the construction and prior to completion.
3. All written dimensions shall take precedence over the scale shown on plans, sections, and details. Do not scale the drawings.
4. Typical details and notes on these sheets shall apply unless specifically shown or noted otherwise. Construction details not fully shown or noted shall be similar to details shown for similar conditions. Typical details are not cut on drawing plan sheets, but shall apply at all applicable locations. Typical details also apply to items not shown on the structural drawings, which include but are not limited to mechanical openings for which structural typical detail framing applies and top of CMU wall bracing for CMU walls shown on the architectural drawings. Contractor shall coordinate between trades and make provision to obtain and install structural features per the typical details as required by other trades.
5. All work or construction shall comply with all applicable building codes, regulation and safety requirements.
6. Principle curbs, slabs, and openings are shown on the structural drawings. See architectural, mechanical, plumbing, and electrical drawings for sleeves, curbs, inserts, other openings, and slab depressions not shown. The contractor shall provide for all openings, curbs, and slab depressions, whether shown on the structural drawings or not. Size and location of openings shall be verified by the mechanical contractor. Any deviation from openings shown on the structural drawings shall be brought to the Engineer's attention for approval prior to fabrication or installation of structural members.
7. Where specifications and drawings contradict, the more stringent shall govern.
8. It shall be the Contractor's sole responsibility to design and provide adequate shoring, bracing, and framework, as required for the protection of life and property during the construction of this building. Excess load capacity of slab shall not exceed loads equivalent to the design superimposed loads less construction dead and live load, partition load, and any other load not in place at the time of shoring.
9. The Contractor shall be solely responsible for all excavation procedure including lagging, shoring, and protection of adjacent property, structures, streets and utilities in accordance with all local, state and federal safety regulations and practices.
10. Cantilever and basement retaining wall(s) have not been designed for surcharge loading associated with construction traffic behind the wall. The Contractor and his subs shall provide adequate temporary bracing to resist increased lateral loads on the wall(s) associated with their means and methods of construction.
11. Construction loads shall not exceed the design superimposed live load capacity of structural elements.
12. Design of crane foundations and crane openings in the structure are the responsibility of the Contractor. The design documents must bear the seal of a registered professional engineer in the state of the project and all necessary calculations shall be submitted to the Architect and Engineer for review prior to fabrication. The Architect's review is not to imply acceptance of responsibility for design adequacy. This is the Contractor's responsibility.
13. In accordance with the geotechnical report recommendations, an underslab and perimeter drain system shall be installed to protect the completed floor slab against hydrostatic uplift from ground water. The underdrain system design shall be on the emergency generator. The structure is not designed to resist any hydrostatic pressures.
14. Information shown in the structural drawings that is not specifically designed by the structural engineer is shown schematically for information purposes only. The Contractor shall coordinate with the appropriate drawings for the full intent of the information referenced.

EXISTING CONDITIONS
1. All dimensions and elevations of existing structures shown on the drawings are obtained from available sources, and are not guaranteed to be true and exact. The General Contractor shall verify these dimensions and elevations by actual field measurements prior to fabrication of any materials and start of Work, and report any discrepancies to the Architect/Engineer.
2. Field verification measurements shall be completed sufficiently in advance of the fabrication and erection schedule so as not to impede the progress of Work. All delays or costs caused by improper or late field verification shall be the Contractor's sole responsibility.
3. The Engineer of Record will not review or approve shop drawings prior to the field verification of existing dimensions.
4. The structural design is based only on the structure in its completed state. The Contractor and his subs shall install any new structure in or attached to existing structure using whatever means and methods are necessary in his opinion. Because the documents show the structure in its completed state, means and methods of installation is the Contractor's sole responsibility. If the chosen installation methods require additional work not shown on the construction documents, it is the Contractor's responsibility to include it in his scope of work and/or bring it to the attention of the Architect/Engineer for review at the time of pricing the work. This includes but is not limited to additional demolition and rebuilding required in order to place new structure.
5. Existing structural framing and foundations shall not be disturbed unless specifically noted otherwise on the drawings.
6. If field conditions differ from those shown on drawings, Contractor shall notify architect/engineer in writing before proceeding with installation/erection. Notification shall occur sufficiently in advance of the Work to allow Engineer to review.
7. Shoring required for demolition of existing structures or installation of new structures shall be the Contractor's responsibility. Shoring calculations and drawings shall be signed and sealed by the Contractor's engineer in the state of the project and shall be submitted to the Engineer of Record for review.

DEMOLITION
1. Remove existing construction, as shown on plans, or as required to install new construction. See sections and details for extent of structure to be removed. Rebuild beam bearing, jambs, etc. to match existing, and in accordance with architect's approval.
2. Existing structural framing shall remain unless specifically noted on plan to be removed.
3. All shoring, needling, underpinning, etc. shall be as required to support the existing structure. The Contractor shall examine the existing structure to determine the extent of necessary shoring, needling, and underpinning. The capacity and method used for shoring, needling and underpinning shall be the responsibility of the Contractor.
4. If field conditions differ from those shown on drawings, notify architect/engineer before proceeding with demolition. Notification shall occur sufficiently in advance of the Work to allow Engineer to review.
5. Shoring required for demolition of existing structures or installation of new structures shall be the Contractor's responsibility. Shoring calculations and drawings shall be signed and sealed by the Contractor's engineer and shall be submitted to the Engineer of Record for review.

FOUNDATIONS - SPREAD FOOTINGS
1. Foundation design and subsurface information is based on the geotechnical recommendations prepared by ECS Mid-Atlantic, LLC dated February 26, 2015, including Addendume No. 1 dated June 9, 2015. Contractor shall review and comply with the recommendations in the geotechnical report, regardless of if such recommendations are explicitly stated within the documents.
2. All surface fill materials, consisting of gravel, brick fragments, concrete chips and wood chips shall be removed in the regions of all foundations in accordance with the geotechnical recommendations.
3. Slabs-on-grade shall rest on a minimum of 5" of MSHA No. 57 graded coarse aggregate, CR-6 or GASB dense-graded aggregate or approved equivalents. Acceptable granular subbase materials should have no aggregate size greater than 1.5 inches, 95 to 100 percent passing the 1 inch sieve, and less than 12 percent by total weight passing the Number 200 sieve. All granular materials shall be compacted; however, if the granular subbase materials have more than 5 percent fines, those materials should be compacted to a minimum of 98 percent of the maximum dry density as determined by the Standard Proctor compaction test method (ASTM D 698). Prior to placing the select granular materials, the floor subgrade soils shall be properly compacted, proofrolled, and free of standing water, mud, and frozen soil. Proofrolling and/or close visula examination of the slab subgrade shall be performed prior to placing any select granular materials and shall be concentrated in those areas where previous utility backfills have ben placed. All fill placed within the building areas shall be placed in loose lifts which do not exceed 8 inches in thickness and compacted to at least 95 percent of their maximum dry density, as determined by ASTM D 698, Standard Proctor Test method.
4. Although slab-on-grade construction may be completed within the warm months of the year, exposure of the interior slab-on-grade to freezing temperatures can result in frost heave. To reduce frost heave beneath any previously installed slab-on-grade, the following requirements shall be met: a) All foundation excavations and unpoured leaveouts within the slab area shall be covered and any water pumped out to reduce water flow into the select granular fmaterials, and b) All joints shall be sealed to reduce surface water flow into the granular materials.
5. All footings have been designed as spread footings to bear on approved newly placed controlled and compacted fill materials placed over natural soils and/or in competent natural soils for a net allowable soild bearing pressure of 2,500 PSF. The Testing and Inspection Agency shall verify soil bearing capacity at each footing prior to installation of footing. Notify Engineer of any variation from anticipated bearing capacity for appropriate redesign or lowering of footing. All Earthwork Operations described in the geotechncial report shall be followed. All fill placed within the building areas shall be placed in loose lifts which do not exceed 8 inches in thickness and compacted to at least 95 percent of their maximum dry density, as determined by ASTM D 698, Standard Proctor Test method.
6. Foundations in non-heated areas shall be constructed at a minimum depth of 32 inches below finished exterior grades. However, if the interior foundations bearing at levels above 32 inches are constructed during the winter months or are subjected to freezing temperatures, there is a possibility of frost adversly affecting those foundaitons, and the contractor shall take adequate precautions to maintain temperatures above freezing around those shallow interior foundations. Foundaitons in heated areas, where protected during construction, may be constructed at a minimum depth of 18 inches below finished grade.
7. The bottoms of all exterior footings shall be 2'-6" minimum below finished grade. The top of all interior footings shall 0'-8" minimum below finished floor elevation, unless noted otherwise on the drawings.
8. Edges of footings shall not be placed at a greater than 1 (vertical) to 2 (horizontal) slope with respect to any adjacent footing or excavation.
9. All adjacent column footings that abut shall be separated by a paper joint.
10. Backfilling against walls shall not be done until concrete and/or masonry has been cured to attain sufficient strength (7 days minimum) and walls are properly shored and/or braced. Backfilling against basement walls shall not be done until the floor slabs at top and bottom of walls have been placed and have cured. Backfill foundation walls with earth on both sides of the wall by alternately placing backfill on each side so that height of backfill does not differ by more than 1'-6" from other side.
11. The contractor shall safeguard and protect all excavations, and all excavations shall be kept free of accumulated water.
12. Maximum length of foundation wall placed in one operation shall not exceed 60 feet.
13. No horizontal joints shall be placed in walls except as shown on the drawings without approval of the Engineer
14. The contractor shall refer to the Architectural, Plumbing, Mechanical and Electrical Drawings for all locations of trenches, pits, conduits, etc. not shown on the Structural Drawings.
15. The contractor shall anticipate temporary dewatering during excavation. Do not allow water to accumulate and/or pond in excavations. Temporary dewatering system shall be to be used during construction shall be designed and installed in accordance with the geotechnical recommendations and shall comply with all applicable Codes.
16. In accordance with the geotechnical report recommendations, an underslab and perimeter drain system shall be installed to protect the completed floor slab against hydrostatic uplift from ground water. The underdrain system design shall be on the emergency generator. Based on ECS's foundation drainage design, the foundaiton drainage system will maintain the ground water level at the proposed tunnel subgrade elevation. The structure is not designed to resist any hydrostatic pressures, except the elevator pit & tunnel pit slabs, and elevator pit & tunnel pit walls. The tunnel pit slab and tunnel pit walls shall be designed by the precast contractor.

RETAINING WALLS
1. Retaining walls shall be either "Braced" or "Cantilevered" retaining walls.
2. "Braced" retaining walls are designed with lateral supports at the [bottom and] top of the wall. The Contractor shall provide temporary bracing as required during construction to support the wall until the final braced condition is met. The Contractor shall assume all walls are designed as "Braced" walls unless specifically noted otherwise on the Contract Documents. Backfilling against "Braced" walls shall not be done until concrete and/or masonry has been cured to attain sufficient strength (7 days minimum) and walls are properly shored and/or braced. "Braced" retaining walls have not been designed for surcharge loading associated with construction traffic behind the wall. The Contractor and his subs shall provide adequate temporary bracing to resist increased lateral loads on the walls associated with their means and methods of construction.
3. "Cantilevered" retaining walls are designed without lateral supports at the [bottom or] top of the wall. The Contractor is not required to provide temporary support of these walls during construction. Backfilling against "Cantilevered" walls shall not be done until concrete and/or masonry has been cured to attain sufficient strength (7 days minimum). "Cantilevered" retaining walls have not been designed for surcharge loading associated with construction traffic behind the wall. The Contractor and his subs shall provide adequate temporary bracing to resist increased lateral loads on the walls associated with their means and methods of construction.

CONCRETE MATERIALS AND PROPORTIONING
1. All concrete work shall comply with ACI 301, ACI 318, and ACI 315.
2. Cement shall comply with ASTM C 150, Type I or III.
3. Aggregates shall comply with ASTM C 33, ACI 304, and ACI 211.1.
4. Coarse Aggregates – See Specifications.
5. The water/cement ratio shall be as indicated in the Specifications.
6. All concrete shall have slumps in accordance with ACI 211.1 and the Specifications, except slabs on earth shall have a 3 1/2" maximum slump.
7. All exterior concrete shall be air entrained 4% - 6% per the Specifications. Limit entrapped air in concrete to receive hard steel trowel finish to 3% maximum for slabs on grade, superstructure concrete, and concrete on metal deck.
8. All concrete, except footings, shall contain water reducer per manufacturer's recommendations.
9. No concrete shall be placed until concrete design mixes have been submitted for each class of concrete and have been approved by the engineer. Mix designs shall indicate where each is to be used in the work.
10. Welded wire reinforcement shall conform to ASTM A185. All welded wire reinforcement shall be spliced so that the overlap between outermost cross wires of each sheet is not less than the spacing of the cross wires plus 2 inches, unless otherwise shown on drawings.
11. Reinforcing steel shall be deformed bars of intermediate grade new billet steel conforming to current requirements of ASTM A 615, Grade 60, unless noted otherwise.
12. Reinforcing steel to be welded shall conform to the current requirements of ASTM A706.
13. Splice laps for all reinforcing shall be class 'B', unless otherwise noted. Lap splices of continuous reinforcing shall be made over supports for bottom bars and at midspan for top bars, unless noted otherwise. All hooks shall be standard hooks, unless otherwise noted.
14. Refer to Architectural Drawings and/or Specifications for concrete finishes.
15. 1Structural normal weight concrete shall have a maximum dry unit weight of 150 PCF. Structural lightweight concrete shall have a maximum dry unit weight of 110 PCF.

FOUNDATION CONCRETE
1. All concrete shall be normal weight concrete having a minimum design compressive strength at 28 days as follows:
   a. Footings 3000 PSI
   b. Walls & Piers 3000 PSI
   c. Slab-on-grade 3500 PSI
2. The following welded wire reinforcement shall be used for areas specified below, unless noted otherwise on the drawings:
   4 inch slab-on-grade 6X6 – W1.4XW1.4
   5 inch slab-on-grade 6X6 – W2.0XW2.0
   6 inch slab-on-grade 6X6 - W2.9XW2.9
3. Minimum steel protection, unless otherwise shown, shall be 1" for interior face of walls, 2" for exterior face of walls, 3" for footings and other structural concrete deposited against ground, 2" for concrete permanently exposed to earth or weather.
4. All structural members shall be poured to their full depths in one operation. Construction joints, such as day's pour joints, shall be located in the middle third of the span, main reinforcing to run through the joint, key and roughen joints to expose aggregate. Contractor shall submit drawing indicating construction joint locations for approval.
5. Excavations shall be kept free of accumulated water. No concrete shall be placed in water.
6. All slabs-on-grade shall have thickenings, depressions, openings, slopes, etc. as shown or as required by various trades.
7. Provide vertical dovetail inserts 2'-0" o.c. with anchors in all concrete surfaces faced with brick which are 1'-3" or greater in height.
8. Provide water stops at locations shown on Architectural drawings.
9. For additional concrete work not shown on Structural Drawings, see Architectural Drawings. All concrete within the building footprint shall be reinforced, unless specifically noted otherwise. See typical details for concrete items/reinforcing not shown on structural plans. If no reinforcing detail is shown for an item, contact the Engineer for review prior to work.

SUPERSTRUCTURE CONCRETE
1. All concrete shall be normal weight structural lightweight concrete having a minimum design strength as follows:
   a. Slab on metal deck 3500 PSI
2. Minimum steel protection, unless otherwise shown, shall be 3/4" for slabs, 1" for interior face of walls, 2" for exterior face of walls, 1-1/2" for beam stirrups and column ties, 2" for vertical column reinforcing.
3. All structural members shall be poured to their full depths in one operation. Construction joints, such as day's pour joints, shall be located in the middle third of the span, main reinforcing to run through the joints, key and roughen joints to expose aggregate. Contractor shall submit drawing indicating construction joint locations for approval.
4. No openings shall be made in any structural member, unless specifically shown on the drawings, without approval from the engineer. No sleeves shall be placed horizontally or vertically in beams or joists, unless specifically shown on the drawings, without approval from the engineer.
5. General contractor shall submit a coordinated drawing showing all sleeves, openings, block outs, etc., as required by all trades, for approval, prior to placing concrete in that area.
6. All slabs shall have thickenings, depressions, openings, slopes, etc. as shown herein or on Architectural, Mechanical, Electrical & Plumbing Drawings.
7. For all superstructure slabs where not otherwise specified use style 6X6-W1.4XW1.4 WWR. This includes non-structural topping slabs.
8. Provide vertical dovetail inserts 2'-0" o.c. in all concrete surfaces faced with brick which are 1'-3" or greater in height.
9. Provide water stops at locations shown on Architectural drawings.
10. For additional concrete work not shown on Structural Drawings, see Architectural Drawings. All concrete within the building footprint shall be reinforced. See typical details for concrete items/reinf. not shown on structural plans. If no reinforcing detail is shown for an item, contact the Engineer for review prior to work.

SUPERSTRUCTURE CONCRETE
(Supported by Metal Deck)
1. All concrete on metal deck shall be lightweight structural concrete having a minimum design compressive strength of 3500 PSI at 28 days.
2. Provide 6X6-W1.4XW1.4 welded wire reinforcement in all concrete slabs on metal deck unless noted otherwise.
3. Mesh shall be draped.
4. The contractor shall allow for 3/4" additional concrete during placing due to deflection of structure.
5. The contractor shall deposit all concrete, during placing in such a manner as not to overload the metal deck.
6. All slabs shall have thickenings, depressions, openings, slopes, etc. as shown herein or on Architectural, Mechanical, Electrical & Plumbing Drawings.
7. Horizontal unit of placement for concrete on metal deck shall not exceed 90 feet in any direction.

SUPERSTRUCTURE CONCRETE - TUNNEL
(Supported by precast concrete members)
1. All concrete topping on precast member shall be normal weight concrete having a minimum design compressive strength of 3000 PSI at 28 days.
2. Provide 6X6-W1.4XW1.4 welded wire reinforcement in all concrete slabs on precast members unless noted otherwise.
3. Contractor shall calculate and include all additional concrete that may be required due to deflections, camber, and alignment of precast members.
4. Contractor shall place concrete in such a manner as not to overload the precast members.
5. Provide filler strips of foamed polystyrene or other material between adjacent floor members receiving toppings.
6. All slabs shall have thickenings, depressions, openings, slopes, etc. as shown herein or on Architectural, Mechanical, Electrical & Plumbing Drawings.

MISCELLANEOUS-CONCRETE
1. Contractor shall verify conditions in the field and immediately notify engineer or architect of any conditions not as assumed. He shall take field measurements as required and be responsible for same.
2. Contractor shall coordinate with all related trades for detailing, fabrication and erection prior to submitting shop drawings for approval.
3. All Structural work shall be coordinated with Architectural, Mechanical, Electrical, Plumbing, etc. requirements.
4. General Contractor to provide appropriate number of copies of coordinated drawings showing all sleeves, conduit boxes, duct openings, etc. as required for all trades for Structural Engineer's approval. This shall be done a minimum of two weeks prior to pouring affected slabs, beams, columns or footings.
5. No openings shall be made in any structural member unless specifically shown on the structural drawings approved by the Structural Engineer.
6. Conduits in concrete slabs must be spaced such that the distance between conduits, centerline to centerline, is a minimum of three times the outside diameter of the largest conduit.
7. No conduit may be placed in the concrete slab which has an outside diameter larger than one-third the total slab thickness.
8. Conduit shall be placed in the middle one-third of the slab thickness.
9. Conduits which cross one another in the concrete slab shall not consume a total space at the point of crossover that is greater than one third the total slab thickness.
10. Conduit embedded in slabs shall not pass thru column cages.
11. No conduits shall be run in the slab unless specifically indicated on the electrical drawings. Conduits that are to be run in the slab must collect only at an electrical panel or similar point. When conduit is to be placed in the slab, the Contractor must advise the Structural Engineer of the number of conduits to be placed and indicate proposed method of installation for the conduits. No conduit shall be placed without the Engineer's approval. Aluminum conduit is not permitted to be embedded in concrete slabs.
12. In no case shall more than two 3/4" diameter conduits or one 1" diameter conduit be run in any column of size 24"x24" or less.
13. Support details for elevator, architectural, mechanical, electrical and plumbing equipment are based upon manufacturer's information. Contractor shall coordinate requirements of actual equipment supplied with details and shall provide any additional framing.

STRUCTURAL PRECAST CONCRETE - TUNNEL
1. The precast concrete shall develop a minimum design compressive strength at 28 days of 5000 PSI, unless higher strength is required by design.
2. The tunnel shall be structural precast members, with prestressing if required by design
3. Use minimum 3,500 PSI concrete strength at release. Use ASTM A-615, Grade 60 reinforcement. Prestressing tendons shall have a minimum tensile strength of 270,000 PSI, and shall conform to ASTM A416.
4. Precast concrete members and their connections shall be designed to resist gravity, earthquake, and wind loads and applicable forces due to volume changes and differential movements in accordance with "PCI Design Handbook-Precast Prestressed Concrete" and local codes.
5. Connections shown are schematic only. Contractor is responsible for design of all connections.
6. Hot dip galvanize all connector assembles. Clean and coat all field welds with two coats of cold galvanizing compound.
7. Minimum cover for all reinforcement shall be 3/4 inches, and shall conform to IBC 2012. Refer to architectural drawings for fire rating of precast, which may necessitate additional concrete cover.
8. Any additional connections and/or framing required for the support of the precast panels, as dictated by contractor's design, shall be designed, fabricated and erected by contractor.
9. For topping slabs, see architectural drawings.
10. For chamfer, reveal and drip details, joint details and locations, and architectural finish of precast members, see architectural drawings.
11. For door openings, wall openings, floor openings, etc., see architectural, mechanical, plumbing, and electrical drawings.
12. No openings shall be made in structural precast members unless shown in shop drawings or with written approval of precast design engineer.
13. Seismic criteria for peak velocity related acceleration and peak acceleration shall be used for precast member and connection design shall be in accordance with Design Criteria.
14. Use the structural and the architectural drawings to obtain the necessary information and design requirements for the precast units.
15. Shop drawings, including erection plan(s), details, and design calculations for all structural members and connections, signed and sealed by a registered engineer in the state of [the project] shall be submitted for review.
16. Coordinate with geotechncial report recommendations for additional tunnel design criteria.
17. Top slab design shall support fire truck loading in addition to the soil loading. Minimum live loading of 250 psf and 8 kip concentrated load.

MASONRY
1. Masonry work shall comply with ACI 530.1/ASCE 6 "Specifications for Masonry Structures".
2. Hollow concrete masonry units shall be 2-cell block, conforming to ASTM C90, normal weight.
3. Reinforced masonry walls shall have a minimum f'm=1500 PSI at 28 days.
4. All mortar shall conform to ASTM C270, type S.
5. All reinforcing shall be deformed steel bars conforming to ASTM A615, Grade 60, with a yield strength of 60,000 PSI (design stress equal to 24,000 PSI). Provide masonry tension lap splices per ACI-530 and applicable building codes and masonry lap splice lengths in the typical details.
6. Masonry reinforcement cover shall be 2" minimum for bars within walls exposed to earth or weather and 1 ½" minimum for all other bars. Where only 1 bar per cell is specified, center bar in cell unless otherwise noted.
7. All masonry walls shall be continually reinforced with truss type horizontal joint reinforcing with a minimum wire size of 0.148" (9 gauge wire) at 16" on-center vertically (u.n.o. on drawings). Provide additional pieces immediately above and below openings, extending 2'-0" minimum beyond opening. Provide prefabricated 'T' and corner pieces at all intersecting walls and corners. Lap joint reinforcing 6" minimum. All 12" CMU back-up to unreinforced masonry, including brick or stone, shall have horizontal joint reinforcing spaced at 8" on-center vertically.
8. All mortar joints, including cross webs, shall be filled 100% solid.
9. Reinforced masonry cells shall be filled solid with grout conforming to ASTM C476 with a minimum compressive strength of 3000 PSI, when tested in accordance with ASTM C1019.
10. Grout walls solid at all changes in bond, unit thickness, below finished grade, at all reinforced cells, and as otherwise noted. Fill cores solid with grout a minimum 24" below bearing plates, beams, lintels, posts and similar items. Grout cores solid 24" deep at locations where post installed wall anchors are required. Contractor shall coordinate with all trades.
11. Inspection holes shall be located at the bottom inside face of all grout filled block to insure that grout has been placed throughout all masonry voids. Inspection holes shall be 1 1/2" diameter holes located at each grout pour when the grout pour height exceeds 5'-0".
12. Provide control joints in all above-grade exterior masonry walls at 1.5 times the wall height not to exceed 25'-0" on center, unless noted otherwise. Provide control joints in all interior masonry walls at 30'-0" on center, unless noted otherwise. See Architectural drawings for control joint details and locations.
13. Masonry basement walls do not require control joints. Basement walls shall have minimum horizontal reinforcement of #4@8" o/c for walls up to 12" thick. Walls thicker than 12" shall have #4@8" o/c each face. Horizontal reinforcement is in addition to vertical reinforcement shown in contract documents.
14. All masonry walls shall be braced at the top to the structure per the structural typical details unless specifically noted otherwise. This applies to all masonry walls shown on the architectural and/or structural documents and also walls shown on the architectural but not the structural documents.
15. Where Contractor designed steel framing bears on masonry walls, provide steel bearing plates as required such that the bearing stress does not exceed 0.33 x f'm for ACI 530-11.
16. All masonry shall be laid in a running bond pattern, unless otherwise noted.
17. For IBC 2012: The minimum Quality Assurance program for masonry shall meet Level B Quality Assurance per ACI 530.

LINTELS
1. Provide lintels or sleeves at all penetrations in new & existing masonry and cocnrete walls at doors, windows, mechanical services, electrical services, equipment, etc. not specifically shown on the drawings, in accordance with the lintel schedule.
2. All lintels shall have 8" minimum bearing each end, unless noted otherwise, and shall be set on a full bed of mortar.
3. Contractor shall shore all lintels as required to prevent rotation during construction.
4. Contractor shall coordinate size and type of lintel with Architectural, Mechanical, Electrical and Plumbing Drawings.
5. All lintels on exterior walls shall be hot-dipped galvanized.
6. Contractor shall provide shoring and/or bracing of existing walls as required to install new lintels. Method of shoring and/or bracing shall be the responsibility of the contractor. See architectural drawings for locations of new openings in existing masonry walls.

LINTEL SCHEDULE
(Non-Bearing Walls)
Provide one angle for each 4" of masonry thickness as follows at all exterior walls:

Openings to 3'-0":	L 3-1/2 X 3-1/2 X 1/4
Openings 3'-0" to 5'-0":	L 4 X 3-1/2 X 5/16 LLV
Openings 5'-1" to 8'-0":	L 6 X 3-1/2 X 5/16 LLV

Provide 6" minimum bearing each end of angle lintel.

For 6" masonry walls provide lintels as follows:

Openings to 3'-0":	(2) L 3-1/2 X 2-1/2 X 1/4 LLV
Openings 3'-0" to 8'-0":	(2) L 3-1/2 X 2-1/2 X 5/16 LLV

Provide 6" minimum bearing each end of angle lintel.

Provide masonry bond beam lintels for interior walls of same texture as adjacent masonry as follows:

Openings to 4-0":	6" Walls -	6" X 8" w/ 1-#5 T&B
Openings to 4'-0":	8" Walls -	8" X 8" w/ 2-#5 T&B
Openings to 4'-0":	12" Walls -	12" X 8" w/ 3-#5 T&B
Openings 4-0" to 6'-4":	6" Walls -	6" X 16" w/ 1-#5 T&B
Openings 4'-0" to 6'4":	8" Walls -	8" X 16" w/ 2-#5 T&B
Openings 4'-0" to 6'-4":	12" Walls -	12" X 16" w/ 3-#5 T&B

Provide 8" minimum bearing each end of masonry bond beam lintel.

See plan for beam lintels. Provide continuous 3/8" bottom plate where required to support CMU. Provide 1/2" diameter X 4" long headed studs at 24" o.c. on top of beam lintels. Galvanize all beam lintels, bottom plates and bearing plates. Provide 8" minimum bearing each end of lintel.

STRUCTURAL STEEL
1. All structural steel work shall conform to AISC specification for structural steel for buildings, and AWS D1.1, latest editions.
2. Structural steel shall conform to the following ASTM designations:

W shapes, Columns	ASTM A992 or ASTM 572-50
S, M, and HP shapes	ASTM A36
Column Base plates, Web Doubler Plates	ASTM A992 or ASTM 572-50
Channels, Tees, Angles, Bars, and Plates	ASTM A36
HSS rectangular or square section	ASTM A500-GR.B (Fy = 46 ksi)
HSS round	ASTM A500-GR.B (Fy = 42 ksi)
Steel Pipe	ASTM A53-GR. B (Fy= 35 ksi)
Anchor Rods	F1554, Gr. 36 typical, Gr. 55 where noted

3. Bolts shall conform to the following ASTM designations:
   High strength bolts - A325
   Standard fasteners - A307
4. All welding electrodes shall conform to the E-70 series of the specifications for mild steel arc welding electrodes ASTM A233, latest edition.
5. All bolts shall be 3/4" diameter, open holes 13/16" diameter, unless otherwise shown or noted.
6. All shop connections shall be high strength bolted or welded.
7. All field connections shall be high strength bolted except where details indicate welding. All connections of beams to columns, beams carrying columns or struts, and main beams supporting stairs shall be bolted with high strength bolts. High strength bolted connections are to be indicated on erection drawings thus whether shown on design drawings or not.
8. All welding shall be done by licensed welders and shall be inspected by an approved testing agency which shall issue an affidavit that all welding has been inspected and found to be in conformity with details.
9. No penetrations are permitted through structural steel members unless indicated on Structural Drawings or approved by the Engineer.
10. Approval of the Engineer shall be mandatory for the use of a cutting torch in the field.
11. During erection, structural steel frame shall be adequately braced in all lines, two ways.
12. Steel connections for beams, vertical trusses, moment frames, custom trusses, and column splices not detailed on the drawings shall be designed by the structural steel fabricator. Beam connections shall develop the unfactored end reactions in kips for each size group provided in the table below, unless otherwise shown thus (Vxx) on the drawings. Reactions provided in the table below and on the drawings are not factored. To achieve LRFD factored values, multiply those in table or on drawings by 1.4. Note number of bolts shown are the minimum required, and do not reflect the total bolt number required to achieve the reaction capacity. Connections shall be designed per AISC:

Size Group	Shear Rxn (k)	Min # Bolts	Size Group	Shear Rxn (k)	Min # Bolts
W8,10	8	2	W18	33	3
W12	14	2	W21	42	4
W14	24	3	W24	50	4
W16	24	3	W27	60	5

13. The structural steel fabricator shall provide certification by a professional engineer, registered in the state of Maryland that the connection design is in accordance with all applicable codes and specifications.
14. All steel work shall have one shop coat of paint except that steel receiving spray-on fireproofing, within 2" of weld, with machined surface, or completely encased in concrete. In these cases steel shall be left unpainted.
15. Milled or butt welded stiffeners shall be provided on girders under all column concentrations and over all columns.
16. Where web of beam cannot pass a column flange, bolts connecting plate to beam shall be designed for shear and moment and connection of plate to column shall be designed for shear only.
17. All connections of beams and girders to tops of columns shall be framed unless they are cantilevers, in which case they shall run over top of column as per typical details.
18. All grout under steel plates shall be non-shrink "pre-mix" type and shall have minimum compressive strength per the specifications.
19. For all miscellaneous steel construction not shown on Structural Drawings, see Architectural Drawings.
20. Shop drawings shall include erection plans, erection details, fabrication details, member sizes, dimensions, plate sizes, weld symbols, bolt size and type, etc.
21. Where not indicated on plan, cantilever beams shall be the same size as the cantilever backspan.
22. Provide framed openings in composite or roof deck material per the structural typical details where openings are indicated on the structural, architectural, and mechanical drawings.
23. All steel exposed to weather shall be hot dipped galvanized.
24. Structural steel required to frame areas to be coordinated by the Contractor shall not be considered "For Construction" until after all coordination has been completed by the Contractor. Areas that may require Contractor coordination include areas with any items that are to be coordinated or selected by the Contractor, including elevators, mechanical equipment framing, dunnage support, equipment screens, high density filing support, etc. Structural steel materials for these areas shall not be ordered until the coordination has been completed by the Contractor.

METAL DECKING
1. Fabrication and erection of all metal deck shall conform to the latest edition of Steel Deck Institute Specifications.
2. Metal decking shall be made of steel conforming to ASTM A653 SQ Grade 33 with coating designation G60 at floors, and G90 at roof for galvanized deck in accordance with ASTM A924.
3. All metal deck has been designed to be continuous over 3 spans minimum, and shall bear at least 2" on steel supports. For one or two span conditions, the contractor shall provide shoring as required, or furnish heavier gauge deck as required to support all the applicable loads. Contractor shall submit alternate for approval.
4. Deck shall be welded to supporting steel at ends of units and at all intermediate supports in accordance with manufacturer's recommendations. Side laps shall be welded or screwed at 2'-0" o.c. maximum for spans over 3'-0".
5. Composite metal deck shall be galvanized and shall be placed in continuous spans of three or more where possible (see note 4 above). In no case shall unshored metal deck spans exceed the manufacturer's published recommendations or deflection criteria of span divided by 240. Metal deck shall provide the following minimum properties:
   Typical floor composite deck
   3" – 20 GA.
   I = 0.938 in4/ft
   Sp = 0.553 in3/ft
   Sn = 0.572 in3/ft
6. Deck units shall be lapped only at supports.
7. Roof deck shall be wide rib, galvanized metal roof deck with following minimum properties:
   1 ½" Type B -- 20 GA.
   I = 0.212 in4/ft
   Sp = 0.234 in3/ft
   Sn = 0.247 in3/ft
8. Weld roof deck to supporting members according to manufacturer's recommendations. Deck and welds shall have a minimum design diaphragm strength of 350 plf.
9. Provide ridge and valley plates, reinforcing channels, standard closures, cant strips, sump pans, finish strips, pour stops, and other accessories as shown on drawings and as required.

COLD-FORMED METAL FRAMING
1. The engineering of all Cold-Formed Metal Framing, including their connections shall be the responsibility of the Contractor. Design and section properties shall be in accordance with AISI "Specification for the Design of Cold-Formed Steel Structural Members".
2. Shop drawings and sample calculations, signed and sealed by a registered engineer in the state of Maryland, shall be submitted for review.
3. Sizes indicated on the Contract Drawings are the minimum accepted sizes only, and the Contractor's use of them does not relieve him of the responsibility for their design.
4. All galvanized, painted or unpainted material shall conform to the following:
   Studs and joists of 12, 14 and 16 gage: ASTM A 1003, Grade ST50H, Fy=50,000 PSI minimum.
   Studs and joists of 18 and 20 gage, tracks, bridging, and accessories: ASTM A 1003, Grade ST33H, Fy=33,000 PSI minimum.
5. All exterior cold-formed metal walls galvanized material shall be formed from steel having a minimum G-90 galvanized coating conforming to ASTM A653. All interior load bearing walls galvanized material shall be formed from steel having a minimum G-60 galvanized coating conforming to ASTM A525.
6. All painted material shall be primed with rust-inhibiting paint, meeting performance requirements of TT-P-636C.
7. Infill walls shall be detailed to accommodate primary frame live load deflection for l/360 or 1" minimum or as indicated on the Contract Documents and Specifications, whichever is greater.
8. Shop drawings shall include, as a minimum, erection plans, elevations as required, erection details and general notes. Details should include dimensions, plate sizes, weld symbols, fastener size and type, etc.
9. Connections and fasteners to structural members are the responsibility of the cold-formed provider and contractor. Cold-Formed metal framing manufacturer and/or contractor shall provide and install all components not shown on the structural drawings required for the attachment of the cold-formed metal framing.

PREFABRICATED COLD-FORMED METAL TRUSSES
1. Cold-formed metal truss materials as noted in Cold-Formed Metal Framing'.
2. The Contractor shall be responsible for the design, fabrication and erection of trusses, in accordance with the latest specifications.
3. Trusses shall be designed for all loads indicated, plus applicable snow drift/sliding, as required by code.
4. Truss design shall include temporary and permanent bracing, as required. Permanent bracing shall be attached to the walls.
5. Truss layout and configurations shown are suggestions only. The truss manufacturer shall be responsible for the final layout and configuration, and coordination with architectural requirements (i.e. pitch, height, soffits, etc.).
6. Coordinate draft stop and blocking requirements with the architectural drawings. Provide additional web members as required to support draft stop material.
7. Coordinate web member configuration with mechanical ductwork routing as required.
8. Coordinate pipe support locations and reactions with mechanical and truss supplier.
9. Coordinate rooftop equipment and dunnage support locations and reactions with mechanical and truss supplier.
10. All truss connections shall fully develop stresses in member, plus any eccentricities caused by connections.
11. Connectors to be used in strict accordance with manufacturers specifications. All connectors shall be galvanized.
12. Overbuild framing shall be pre-engineered valley trusses. Provide continuous distribution member on low truss as required by truss design to distribute concentrated loads to low trusses. Sheathing to be continuous across low trusses.
13. Shop drawings, including erection plan(s) and details, and design calculations for all structural members and connections, signed and sealed by a registered engineer in the project state, shall be submitted for review. The truss engineer shall visit the site to confirm that the trusses, as erected, are in accordance with the design.

METAL STAIRS
1. The engineering of all Metal Stair Framing, including their connections shall be the responsibility of the Contractor.
2. Metal stairs and platforms shall be designed to support a minimum uniform live load of 100 PSF or a concentrated load of 300 pounds on a 4 square inch area, whichever produces the greatest stress. Maximum live load deflection shall be limited to L/360.
3. Shop drawings and sample calculations, signed and sealed by a registered engineer in the project state, shall be submitted for review.
4. Sizes indicated on the Contract Drawings are the minimum accepted sizes only, and the Contractor's use of them does not relieve him of the responsibility for their design.
5. Where steel construction occurs adjacent to stairs, connections to structural members shall be designed to attach directly to the adjacent beams. Do not attach to bent plates or other slab edge support metal.

SHOP DRAWINGS/SUBMITTALS
1. Reproduction of Contract Documents will not be accepted as shop drawings.
2. Electronic copies of structural drawings will not be made available for Contractor's use in preparing shop drawings. In the event the Contractor obtains a courtesy electronic copy from any source, it shall be used for coordination purposes only. Electronic dimensions shall not be scaled. Any use of electronic dimensions not explicitly shown on the Construction documents for construction layout purposes is at the Contractor's sole risk.
3. Shop Drawings shall be submitted for architect/engineer review for the following items:
   Concrete/Grout Design Mixes
   Concrete/Masonry Reinforcing Steel
   Concrete/Masonry Material Certifications
   Precast Concrete
   Structural Steel
   Metal Deck
   Cold-Formed Metal Framing
   Metal Stairs
   Connection Calculations
   Shoring
4. Shop drawings for all elements noted above and shown on the Contract Documents shall be submitted for architect and engineer review. If the Contractor or Owner fails to submit shop drawings, the engineer will not be held responsible for the design of the project. The shop drawings shall indicate any deviations or omissions from the Contract Documents.
5. The contractor shall supply the engineer with checked shop drawings bearing the contractor's stamp of approval and signature. The review of shop drawings by the engineer is only for general compliance with the structural drawings and specifications. This review does not guarantee in any way that the shop drawings are correct, complete, nor does it infer that they supersede the Contract Documents.
6. The Contractor shall review and verify all dimensions and conditions shown on these drawings and report any discrepancies to the architect. Shop drawings are an aid for field placement, and are superseded by the structural drawings. It shall be the responsibility of the general contractor to make certain that all construction is in full agreement with the latest structural drawings.
7. Submittals requiring certification by a professional engineer shall be signed and sealed prior to submittal of the submission for review.
8. Any work fabricated or installed incorrectly due to the Contractor's lack of verification shall be corrected at the Contractor's expense.
9. Shop Drawings should include sufficient information to be utilized in the shop for accurate fabrication of materials and in the field for accurate installation of the work.
10. All shop drawings used for work shall bear the stamp of the Architect/Engineer and shall be marked "Approved", "Approved as Noted", or "Reviewed".
11. Contractor shall provide a proposed submittal schedule showing anticipated shop drawing submission dates a minimum of two (2) weeks prior to the first shop drawing submittal.
12. Steel submissions shall be submitted such that each individual construction sequence is a separate stand alone submittal package with an Erection Plan, Assembly Drawings, and Piece Mark Drawings. Typical Details, Connections, Calculations and Sections may be submitted as one submittal package at Contractors option, but must be received prior to the first sequence submission. Sequence submittals shall be submitted in the order that they will be Fabricated and Erected. Processing time for review of each sequence shall be allowed and shall not be assumed to be concurrent. Sequences larger than the floor area of the largest single floor of the building will require additional review and processing time. Additional review and processing time shall not be assumed to be concurrent. Any sequence anticipated to be larger than the maximum single floor area shall be clearly indicated in the submittal schedule and brought to the Architect's/Engineer's attention for discussion of review times prior to submission of said sequence.

INSPECTION
1. An independent inspection agency shall be retained to inspect/monitor/test the following items per IBC 2012, and local code requirements:
   Earthwork operations, including verification of bearing capacity
   Cast-in-place Concrete
   Precast Concrete
   Reinforced Masonry
   Structural Steel
   Metal Deck
   Cold-Formed Metal Framing
   Metal Stairs
2. Testing and Inspection reports shall be forwarded in a timely manner. Daily reports shall be forwarded each week and deficiency reports shall be forwarded within 24 hours for review. Testing and Inspection agency shall issue a final letter of certification for each building component noted above.
3. The Engineer may periodically visit the site to observe the general progress of construction or to provide assistance resolving field conditions. Such visits to the site shall not be construed as meeting the project inspection requirements.

DESIGN CRITERIA
1. This building has been designed to conform to applicable provisions of the 2012 International Building Code, all applicable supplements, and all applicable local building codes and amendments.

A. Design Live Loads:
   See 'Loading Schedule'.

B. Design Dead Loads:
   See 'Loading Schedule'.
   Perimeter wall allowance has been provided as required by architecture – loading varies.

C. Wind Loads:

Ultimate Design Wind Speed	Vult = 120 mph
Nominal Design Wind Speed	Vasd = 93 mph
Exposure	D
Risk Category	III
Internal Pressure Coefficient	GCpi = +/- 0.18

Components & Cladding Design Wind Pressures: Contractor may use table values shown below or may calculate actual values based on the specific geometry and conditions in accordance with applicable building codes and submit signed and sealed calculations for review.

Zone	Wall pressures: Pressure	Wall pressures: Suction	Zone	Roof Pressures: Uplift
4 (Interior)	+42 PSF	-45 PSF	1 (Interior)	-41 PSF
5 (Corner)	+42 PSF	-56 PSF	2 (Edge)	-49 PSF
			3 (Corner)	-49 PSF
			Overhang	-77 PSF

C&C pressure notes: "a" = 10 feet = distance from corner or edge for which Zone 2, 3, and 5 values apply. Reference ASCE 7, Figure 30.5-1 for more information.

D. Snow Load:

Ground Snow Load	Pg = 25 psf
Snow Exposure Factor	Ce = 1.0
Snow Importance Factor	Is = 1.1
Thermal Factor	Ct = 1.0
Flat Roof Snow Load	Pf = 19.25 psf + unbalanced, drifting, and sliding snow where applicable

E. Seismic Loading
   Risk Category III
   Seismic Importance Factor Ie = 1.25
   Mapped Spectral Response Acceleration Parameters
   Ss=0.216g
   S1=0.054g
   Site Class – D Per Geotechnical Report
   Design Spectral Response Acceleration Parameters
   S(DS)=0.2304g
   S(D1)=0.0864g
   Seismic Design Category = B
   Basic Seismic Force Resisting System:
   Light Frame Wall Systems using Strap Bracing
   Seismic Response Coefficient:
   Cs=0.0576
   Response Modification Factor:
   R=4
   Analysis Procedure:
   Equivalent Lateral Force
   Design Base Shear:
   Plan north-south direction, V = 75 kips
   Plan east-west direction, V = 75 kips

F. Special Loads:
I. Mechanical equipment live loads
   Loads for mechanical equipment are based on assumed equipment as indicated on plan (including concrete pads where indicated). Any loads greater than those indicated shall be brought to the attention of the architect/engineer in writing prior to the fabrication of supporting structural members. Supporting members will need to be reviewed and possibly redesigned if loads exceed that shown.

II. Basement Retaining Walls:

Equivalent At-Rest Earth Pressure	= 60 psf
Equivalent Active Earth Pressure	= 40 psf
Equivalent Passive Earth Pressure	= 250 psf
Surcharge Loads	= 100 psf
Percentage of Surcharge Loads to be applied horizontally to wall	= 50%

III. Tunnel Walls:

Equivalent At-Rest Earth Pressure	= 62 psf
Bulk Density (Wet)	= 125 pcf
Angle of Internal Friction	= 30 degrees
Surcharge Loads	= Load for soil & Fire Truck

IV. Handrails: Reference IBC 1607.8
V. Stairs: Live Load is 100 PSF or 300 pounds on a 4 square inch area, whichever produces the greatest stress.

PROJECT NORTH
TRUE NORTH= 83.00°

FULLY SPRINKLERED
BID DOCUMENTS

#	Revision	Date

CONSULTANTS:
HOPE FURRER Associates, Inc.
SITE RESOURCES
leeandassociatesinc

SEAL
STATE OF MARYLAND
Hope Hughes Furrer
No. 10976
PROFESSIONAL ENGINEER

ARCHITECTS/ENGINEERS:
AE WORKS
6587 Hamilton Avenue
Pittsburgh, Pennsylvania 15206
Ph: 412.287.7333 Fax: 412.287.7334
www.ae-works.com
AE Works Project Number:

Drawing Title: STRUCTURAL GENERAL NOTES
Approved: Project Director
Project Title: Construct a New Residential Rehabilitation Treatment Program (RRTP) Building
Location: Perry Point VA Medical Center, Perry Point, MD 21902
Date: 6-11-15
Checked: MAH
Drawn: MTH
Project Number: 512-531
Building Number:
Drawing Number: S001

Office of Construction and Facilities Management
Department of Veterans Affairs

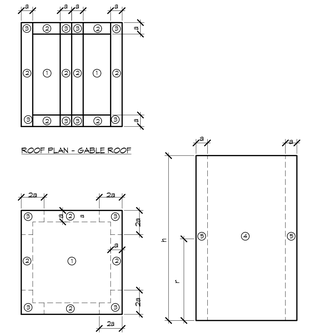
VA FORM 08-6231

LOADING SCHEDULE (PSF)

LOADING \ LOCATION	LEVEL 1 ON GRADE	LEVEL 1 COMPOSITE SLAB	ROOF	TUNNEL SLAB ON GRADE	TUNNEL ROOF SLAB	
CONCRETE SLAB	63	27	-	AS REQ'D	AS REQ'D	
METAL DECK	-	2	3	-	-	
TOPPING SLAB	-	-	-	-	-	
M/E/C/L	-	5	5	-	5	
MEMBRANE	-	-	1	-	1	
SOIL	-	-	-	-	AS REQ'D	
INSULATION	-	-	1	-	-	
PARTITION	-	-	-	-	-	
TOTAL DEAD LOAD	63	37	25	AS REQ'D	AS REQ'D	
LIVE LOAD	100	100	30	100	PER SPEC	
TOTAL LOAD	163	137	55	AS REQ'D	55	

NOTES:
1. ALL LIVE LOADS ARE IN ACCORDANCE WITH INTERNATIONAL BUILDING CODE 2012 EDITION.
2. NO LIVE LOAD REDUCTION HAS BEEN TAKEN INTO ACCOUNT.
3. TOTAL DEAD LOADS DO NOT INCLUDE WEIGHT OF STEEL OR PRIMARY FRAMING MEMBERS.
4. LOADS IN SCHEDULE DO NOT INCLUDE WEIGHTS OF ROOF TOP MECHANICAL UNITS. THE PROVISION FOR THE SUPPORT OF THESE UNITS HAVE BEEN MADE ON AN INDIVIDUAL BASIS. ANY CHANGE FROM SPECIFIED MECHANICAL UNIT (SIZE, WEIGHT AND LOCATION) SHALL BE BROUGHT TO THE ATTENTION OF THE STRUCTURAL ENGINEER.
5. SEE PLANS FOR LOCALIZED CONCENTRATED LOADS.
6. DRIFTED AND SLIDING SNOW LOADS ARE ACCOUNTED FOR IN ACCORDANCE WITH INTERNATIONAL BUILDING CODE 2012 EDITION, BUT ARE NOT INCLUDED IN THE LIVE LOADS INDICATED ABOVE.

&	AND
@	AT
Ø	DIAMETER
ℙ	PLATE
℄	CENTER LINE
A	ABOVE, ANCHOR
A.A.	AFTER ALIGNMENT
A.B.	ANCHOR BOLT
ADD'L	ADDITIONAL
ADJ	ADJACENT
ALT	ALTERNATE
APC	ARCHITECTURAL PRECAST
ARCH	ARCHITECT, ARCHITECTURAL
B	BELOW
B.E.	BOTH ENDS
B.O.	BOTTOM OF
B.S.	BOTH SIDES
B/	BOTTOM OF
BAL	BALANCE
BLDG	BUILDING
BM	BEAM
BOTT	BOTTOM OF
BP	BASEPLATE, BEARING PLATE
BRG	BEARING
C.E.	CONTINUOUS END
C.I.P.	CAST IN PLACE
C/C	CENTER TO CENTER
CA	CAISSON
CANT	CANTILEVER
CJ	CONSTRUCTION JOINT, CONTROL JOINT
CLR	CLEAR
CMU	CONCRETE MASONRY UNIT
COL	COLUMN
CONC	CONCRETE
CONN, CONNX	CONNECTION
CONSTR	CONSTRUCTION
CONT	CONTINUOUS
COORD	COORDINATE
CVR	COVER
D.E.	DISCONTINUOUS END
D.L.	DEAD LOAD
DBA	DEFORMED ANCHOR BAR
DBL	DOUBLE
DEG	DEGREE
DET	DETAIL
DIAM	DIAMETER
DN	DOWN
DWG	DRAWING
DWL	DOWEL
E.E.	EACH END
E.F.	EACH FACE
E.O.D.	EDGE OF DECK
E.O.S.	EDGE OF SLAB, EDGE OF STEEL
E.S.	EACH SIDE
EA.	EACH WAY
EA	EACH
EL, ELEV	ELEVATION, ELEVATOR
EMBED	EMBEDMENT
ENGR	ENGINEER
EQ	EQUAL, EQUIVALENT
EQUIP	EQUIPMENT
ETC	ET CETERA
EX, EXIST	EXISTING
EXP	EXPANSION
EXT	EXTERIOR
F.F.	FAR FACE
F.L.	FULL LENGTH
FNDN	FOUNDATION
FTG	FOOTING
GA	GAUGE, GAGE
GALV	GALVANIZED
GC	GENERAL CONTRACTOR
GR	GRADE
HK	HOOK
HORIZ	HORIZONTAL
I.F.	INSIDE FACE
IN	INCH(ES)
INT	INTERIOR
ISOL	ISOLATION
JT	JOINT
K	KILOPOUND (KIP)
KLF	KIPS PER LINEAL FOOT
KSF	KIPS PER SQUARE FOOT
KSI	KIPS PER SQUARE INCH
L	ANGLE
L.E.	LEFT END
L.L.	LIVE LOAD
LBS	POUNDS
LG	LIGHT GAGE, LONG
LL	DOUBLE ANGLE
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
LSH	LONG SIDE HORIZONTAL
LSV	LONG SIDE VERTICAL
LWC	LIGHT WEIGHT CONCRETE
M.E.P.	MECHANICAL, ELECTRICAL, PLUMBING
M.O.	MASONRY OPENING
M/E/C/L	MECHANICAL, ELECTRICAL, CEILING, LIGHTING
MANUF	MANUFACTURER
MAS	MASONRY
MAX	MAXIMUM
MECH	MECHANICAL
MIN	MINIMUM
MISC	MISCELLANEOUS
MPH	MILES PER HOUR
MTL	METAL
N.F.	NEAR FACE
N.I.C.	NOT IN CONTRACT
N.S.	NEAR SIDE
N.T.S.	NOT TO SCALE
NO	NUMBER
NWC	NORMAL WEIGHT CONCRETE
O.C.	ON CENTER
O.F.	OUTSIDE FACE
OPNG	OPENING
OPP	OPPOSITE
P.A.F.	POWDER ACTUATED FASTENER
PEN	PENETRATION
PERF	PERFORATED
PLF	POUNDS PER LINEAL FOOT
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
R	REMAINDER
R.E.	RIGHT END
REF	REFERENCE
REINF	REINFORCEMENT
REQ'D	REQUIRED
REQMTS	REQUIREMENTS
RET	RETAINING
REV	REVISION
S.O.G.	SLAB ON GRADE
SCHED	SCHEDULE
SECT	SECTION
SIM	SIMILAR
SLH	SHORT LEG HORIZONTAL
SLV	SHORT LEG VERTICAL
SP	SPACING
SQ	SQUARE
STD	STANDARD
STIFF	STIFFENER
STL	STEEL
STRUCT	STRUCTURAL
T & B	TOP AND BOTTOM
T.O.	TOP OF
T/	TOP OF
THICK	THICKNESS
TRANS	TRANSVERSE
TRTD	TREATED
TSF	TONS PER SQUARE FOOT
TTL	TOTAL
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
V.I.F.	VERIFY IN FIELD
VERT	VERTICAL
VT	VERTICAL TRUSS
W.W.R.	WELDED WIRE REINFORCEMENT
W/	WITH
W/O	WITHOUT
WF	WIDE FLANGE
WP	WORK POINT
WT	WEIGHT, WT STEEL SHAPE



NOTES:
1. NOTATION:
   a: 10 PERCENT OF LEAST HORIZONTAL DIMENSION, BUT NOT LESS THAN 20'-0"
   h: MEAN ROOF HEIGHT, IN FEET, EXCEPT THAT EAVE HEIGHT SHALL BE USED FOR θ ≤ 10°
   z: HEIGHT ABOVE GROUND, IN FEET
   θ: ANGLE OF PLANE OF ROOF FROM HORIZONTAL, IN DEGREES.
2. IF A PARAPET EQUAL TO OR HIGHER THAN 3'-0" IS PROVIDED AROUND THE PERIMETER OF THE ROOF WITH θ ≤ 7°, THE NEGATIVE VALUES OF GCp IN ZONE 3 SHALL BE TREATED AS THOSE FOR ZONE 2. THE POSITIVE VALUES OF GCp IN ZONE 2 AND 4 SHALL BE TREATED AS THOSE FOR WALL ZONES 4 AND 5 RESPECTIVELY.
3. DIMENSIONS CALCULATED FROM THIS DIAGRAM ARE CODE REQUIRED MINIMUMS. HIGHER MINIMUM DIMENSIONS MAY BE REQUIRED AS NOTED ON THE CONTRACT DOCUMENTS.
4. DIAGRAMS ARE BASED ON ASCE/SEI 7-10 FIGURE 30.4-2A AND 30.6-1 FOR ENCLOSED / PARTIALLY ENCLOSED BUILDINGS WITH h ≤ 60'-0".

CONCRETE EXPOSURE CATEGORIES

ITEM	EXPOSURE CATEGORY AND CLASS - SEE NOTE 1.			
	F	S	P	C
CONCRETE WITHIN HEATED, ENCLOSED BUILDING FOOTPRINT, INCLUDING FOUNDATIONS & PIERS LOCATED ABOVE THE WATERTABLE.	F0	S0	P0	C0
CANOPY SUPPORT PIERS OR OTHER EXPOSED PIERS	F2	S0	P0	C2
EXPOSED CANOPY SUPPORT SUPERSTRUCTURES	F1	S0	P0	C1
INTERIOR BASEMENT/RETAINING WALLS	F0	S0	P1	C1
EXTERIOR CONCRETE SLABS, TOPPING SLABS, RAMPS, STAIRS, AND STOOPS	F3	S0	P0	C2
SITE RETAINING WALLS	F2	S0	P1	C1
UNDERGROUND CONCRETE VAULTS / TUNNELS	F3	S2	P1	C2
CONCRETE FOUNDATIONS & PIERS LOCATED BELOW THE WATERTABLE.	F0	S0	P0	C1

NOTES:
1. EXPOSURE CATEGORIES AND CLASSES REFERENCE TABLE 318-11 TABLE 4.2.1

PROJECT NORTH
TRUE NORTH= 83.00°

FULLY SPRINKLERED BID DOCUMENTS

#	Revision	Date

CONSULTANTS:

HOPE FURRER Associates, Inc.
SITE RESOURCES
leeandassociatesinc

SEAL

STATE OF MARYLAND — Hope Hughes Furrer — No. 10976 — PROFESSIONAL ENGINEER

ARCHITECTS/ENGINEERS:

AE WORKS

6587 Hamilton Avenue
Pittsburgh, Pennsylvania 15206
Ph: 412.287.7333 Fax: 412.287.7334
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AE Works Project Number:

Drawing Title
STRUCTURAL LOAD SCHEDULES & ABBREVIATIONS

Approved: Project Director

Project Title:
Construct a New Residential Rehabilitation Treatment Program (RRTP) Building

Location: Perry Point VA Medical Center, Perry Point, MD 21902

Date: 6-11-15 | **Checked:** MAH | **Drawn:** MTH

Project Number 512-531

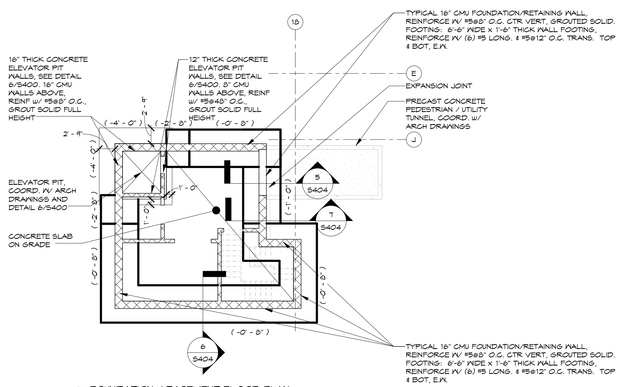
Building Number

Drawing Number S002

Office of Construction and Facilities Management
Department of Veterans Affairs

VA FORM 08-6231

three inches = one foot
one and one half inch = one foot
one inch = one foot
three quarters inch = one foot
one half inch = one foot
three eighths inch = one foot
one quarter inch = one foot
one eighth inch = one foot



1 FOUNDATION / BASEMENT FLOOR PLAN
3/32" = 1'-0"

FOUNDATION/ BASEMENT FRAMING NOTES:

1. ELEVATION TOP OF SLAB ELEVATION -14'-0" AS MEASURED FROM REFERENCE DATUM.
2. ALL ELEVATIONS NOTED ON PLAN ARE WITH RESPECT TO TOP OF SLAB ELEVATION.
3. ALL FOOTINGS SHALL BE SPREAD FOOTINGS.
4. ELEVATIONS NOTED THUS (-0'-0") ARE TOP OF FOOTING ELEVATIONS.
5. ELEVATIONS NOTED THUS <-0'-0"> ARE TOP OF COLUMN PIER ELEVATIONS.
6. ELEVATION TOP OF ALL INTERIOR FOOTINGS SHALL BE (-0'-0") UNLESS NOTED OTHERWISE IN PLAN.
7. BOTTOM OF ALL EXTERIOR FOOTINGS SHALL BE MINIMUM 2'-6" BELOW FINISHED GRADE.
8. FLOOR SLAB SHALL BE 5" THICK CONCRETE SLAB ON GRADE REINFORCED WITH 6 X 6 W2.0 X W2.0 WELDED WIRE REINFORCEMENT AND PLACED ON VAPOR BARRIER OVER 6" GRANULAR BASE.
9. SEE ARCHITECTURAL AND/OR MECHANICAL DRAWINGS FOR:
   A. LOCATION OF FLOOR DRAINS AND SLOPE OF FINISHED FLOOR.
   B. LOCATION AND EXTENT OF SLAB DEPRESSIONS AND RAMPS NOT SHOWN.
   C. SIZE AND LOCATION OF SLAB OPENINGS AND/OR MECHANICAL SLEEVES. SEE TYPICAL DETAILS FOR ADDITIONAL REINFORCEMENT AROUND SLAB OPENINGS.
   D. EQUIPMENT PADS AND SUPPORTS.
   E. BRICK KNEE WALL ELEVATION AND EXTENT.
   F. SIZE AND LOCATION OF NON-BEARING MASONRY PARTITIONS. SEE TYPICAL DETAILS FOR THICKENED SLAB AT MASONRY PARTITIONS.
10. MINIMUM SLAB ON GRADE THICKNESS OF 5 INCHES SHALL BE MAINTAINED AT ALL LOCATIONS; THIS INCLUDES BUT IS NOT LIMITED TO LOCATIONS OF DRAINS, DEPRESSIONS, FLOOR BOXES, AND EMBEDDED ITEMS PER M/E/P AND ARCHITECTURAL DRAWINGS.
11. WORK THIS DRAWING WITH:
   A. GENERAL NOTES: S001 SERIES
   B. FOUNDATION TYPICAL DETAILS AND SECTIONS: S400 SERIES
   C. COLUMN SCHEDULE: S600 SERIES
12. IN ACCORDANCE WITH THE GEOTECHNICAL REPORT RECOMMENDATIONS, AN UNDERSLAB AND PERIMETER DRAIN SYSTEM SHALL BE INSTALLED TO PROTECT THE COMPLETED FLOOR SLAB AGAINST HYDROSTATIC UPLIFT FROM GROUND WATER. COORDINATE WITH ARCHITECTURAL, CIVIL, MECHANICAL AND PLUMBING DRAWINGS FOR WATER REMOVAL SYSTEM AND WATERPROOFING. THE UNDERDRAIN SYSTEM SHALL BE ON THE EMERGENCY GENERATOR. THE STRUCTURE IS NOT DESIGNED TO RESIST ANY HYDROSTATIC PRESSURES, EXCEPT AS NOTED. ONLY THE ELEVATOR PIT & TUNNEL PIT SLAB AND ELEVATOR PIT & TUNNEL PIT WALLS ARE DESIGNED TO RESIST HYDROSTATIC PRESSURE. THE TUNNEL PIT SLAB AND TUNNEL PIT WALLS SHALL BE DESIGNED BY THE PRECASTER FOR HYDROSTATIC PRESSURE. TUNNEL PIT HYDROSTATIC PRESSURE SHALL BE TAKEN AT THE BASEMENT TOP OF SLAB ELEVATION TO THE BOTTOM OF THE TUNNEL PIT FOUNDATION. BUOYANCY CALCULATIONS SHALL USE A MINIMUM 1.2 SAFETY FACTOR IN ACCORDANCE WITH THE GEOTECHNICAL RECOMMENDATIONS.

PROJECT NORTH
TRUE NORTH= 83.00°

FULLY SPRINKLERED BID DOCUMENTS

#	Revision	Date

CONSULTANTS:

HOPE FURRER Associates, Inc.
SITE RESOURCES Comprehensive Land Planning & Site Design Services
leeandassociatesinc

SEAL

STATE OF MARYLAND — Mark Hughes Farrer — No. 10976 — PROFESSIONAL ENGINEER

ARCHITECTS/ENGINEERS:

AE WORKS

6587 Hamilton Avenue
Pittsburgh, Pennsylvania 15206
Ph: 412.287.7333 Fax: 412.287.7334
www.ae-works.com

AE Works Project Number:

Drawing Title
BASEMENT AND TUNNEL PLAN - OVERALL

Approved: Project Director

Project Title:
Construct a New Residential Rehabilitation Treatment Program (RRTP) Building

Location: Perry Point VA Medical Center
Perry Point, MD 21902

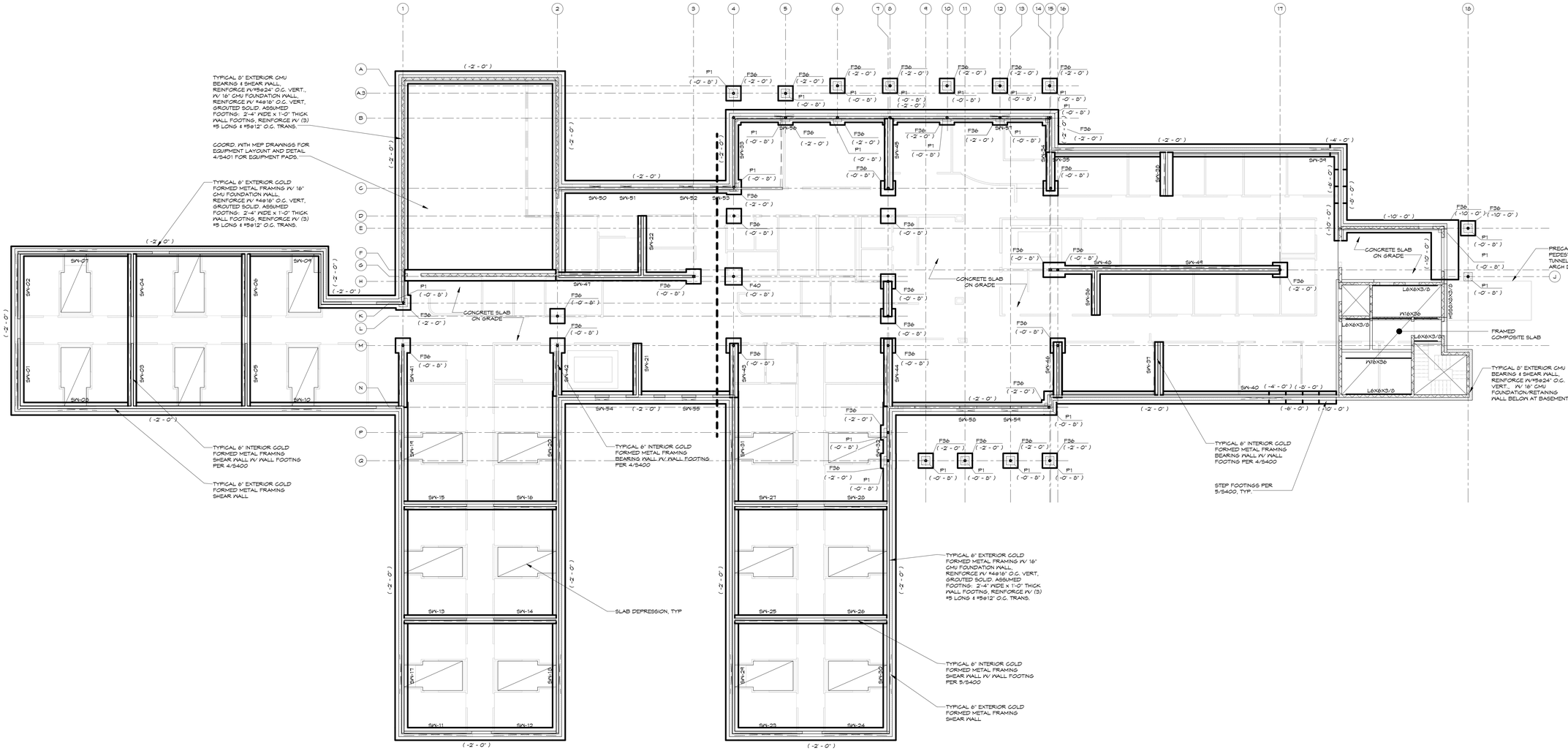
Date: 6-11-15 | **Checked:** MAH | **Drawn:** MTH

Project Number 512-531

Building Number

Drawing Number S100

Office of Construction and Facilities Management
Department of Veterans Affairs



FOUNDATION/FIRST FLOOR FRAMING PLAN - OVERALL
3/32" = 1'-0"

SEE SHEETS S101A AND S101B FOR PLAN NOTES AND ADDITIONAL INFORMATION.

PROJECT NORTH
TRUE NORTH= 83.00°

FULLY SPRINKLERED BID DOCUMENTS

#	Revision	Date

CONSULTANTS:

HOPE FURRER Associates, Inc. | SITE RESOURCES | leeandassociatesinc

SEAL

STATE OF MARYLAND — Mark Hughes Furrer — No. 19976 — PROFESSIONAL ENGINEER

ARCHITECTS/ENGINEERS:

AE WORKS

6587 Hamilton Avenue
Pittsburgh, Pennsylvania 15206
Ph: 412.287.7333 Fax: 412.287.7334
www.ae-works.com

AE Works Project Number:

Drawing Title
FOUNDATION/FIRST FLOOR FRAMING
FRAMING PLAN - OVERALL

Approved: Project Director

Project Title:
Construct a New Residential Rehabilitation Treatment Program (RRTP) Building

Location: Perry Point VA Medical Center
Perry Point, MD 21902

Date: 6-11-15 | **Checked:** MAH | **Drawn:** MTH

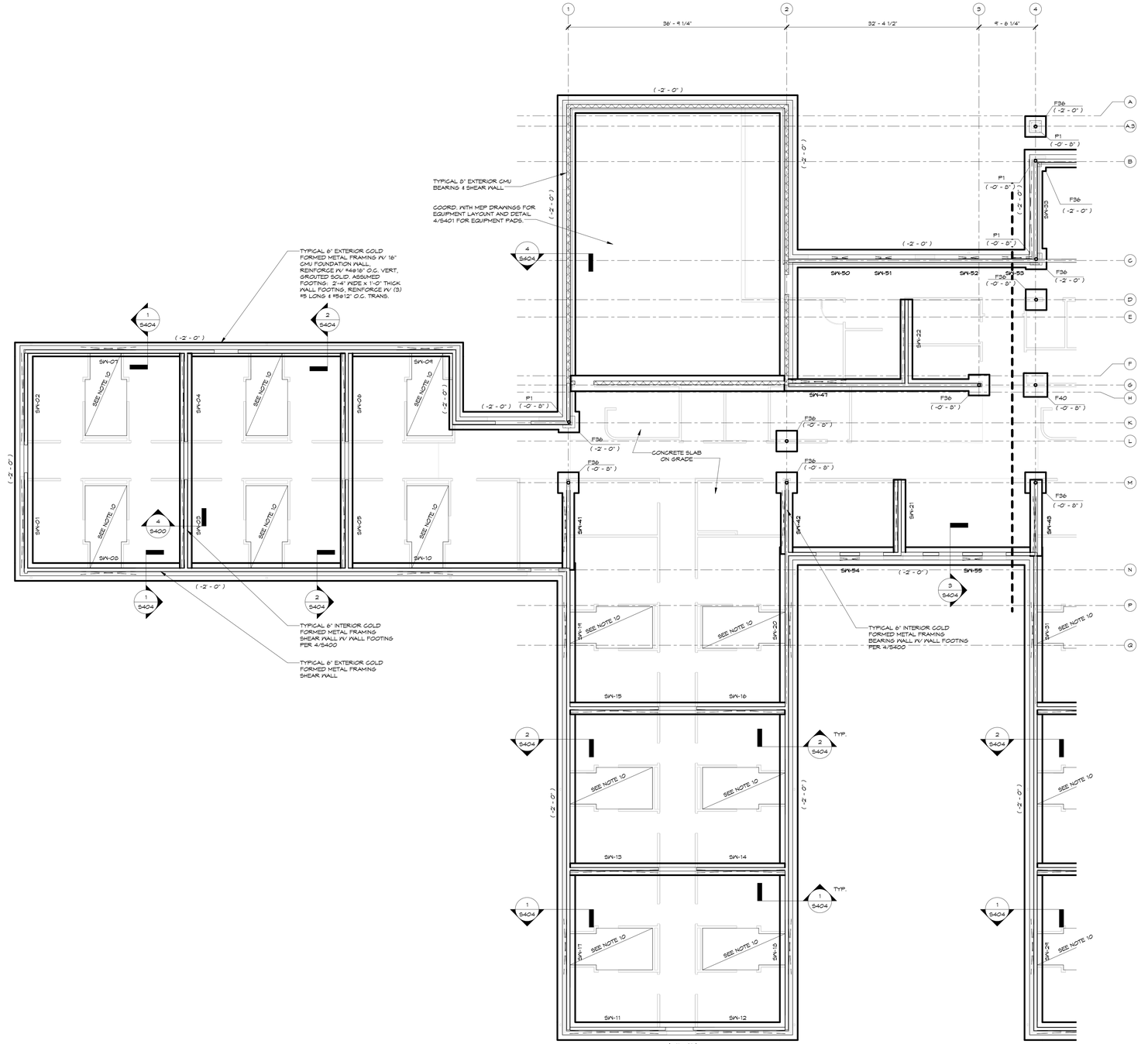
Project Number 512-531

Building Number

Drawing Number S101

Office of Construction and Facilities Management
Department of Veterans Affairs

VA FORM 08-6231



FOUNDATION AND FIRST FLOOR FRAMING NOTES:

1. ELEVATION TOP OF FINISHED FIRST FLOOR SLAB EQUALS ELEVATION 31'-11" WHICH IS REFERENCE DATUM ELEVATION.
2. ALL ELEVATIONS NOTED ON PLAN ARE WITH RESPECT TO REFERENCE DATUM ELEVATION.
3. ALL FOOTINGS SHALL BE SPREAD FOOTINGS.
4. ELEVATIONS NOTED THUS (-0'-0") ARE TOP OF FOOTING ELEVATIONS.
5. ELEVATIONS NOTED THUS (-0'-0") ARE TOP OF COLUMN PIER ELEVATIONS.
6. ELEVATION TOP OF ALL INTERIOR FOOTINGS SHALL BE (-0'-8") UNLESS NOTED OTHERWISE IN PLAN.
7. BOTTOM OF ALL EXTERIOR FOOTINGS SHALL BE MINIMUM 2'-6" BELOW FINISHED GRADE.
8. FIRST FLOOR SLAB IS PARTIALLY SLAB-ON-GRADE AND PARTIALLY FRAMED FLOOR. THE EXTENT OF EACH IS INDICATED ON PLAN.
9. FLOOR SLAB SHALL BE 5" THICK CONCRETE SLAB ON GRADE REINFORCED WITH 6 X 6 (W2.0 X W2.0 WELDED WIRE REINFORCEMENT AND PLACED ON VAPOR BARRIER OVER MINIMUM 5" GRANULAR BASE.
10. SLAB DEPRESSION IN BATHROOMS, COORDINATE WITH ARCHITECTURAL DRAWINGS FOR SLAB DEPRESSION DIMENSION AND FOR TOPPING INFILL AND SLOPE GEOMETRY. SLAB ON GRADE SHALL BE MAINTAINED AS 5" THICK CONCRETE SLAB ON GRADE REINFORCED WITH 6 X 6 (W2.0 X W2.0 WELDED WIRE REINFORCEMENT AND PLACED ON VAPOR BARRIER OVER MINIMUM 5" GRANULAR BASE. COORDINATE WITH TYPICAL DETAIL 2/S401 FOR SLAB ON GRADE REINFORCING AND LAYOUT AT SLAB DEPRESSIONS.
11. FRAMED FLOOR SHALL BE 3-1/4" L.W. CONCRETE TOPPING ON 3"X20 GA. GALV. COMPOSITE METAL DECK (5-1/4" TOTAL THICK.) REINFORCE SLAB WITH 6X6 - W1.4 X W1.4 MWR. DRAPE PER TYPICAL DETAILS
12. SEE ARCHITECTURAL AND/OR MECHANICAL DRAWINGS FOR:
    A. LOCATION OF FLOOR DRAINS AND SLOPE OF FINISHED FLOOR.
    B. LOCATION AND EXTENT OF SLAB DEPRESSIONS AND RAMPS NOT SHOWN.
    C. SIZE AND LOCATION OF SLAB OPENINGS AND/OR MECHANICAL SLEEVES. SEE TYPICAL DETAILS FOR ADDITIONAL REINFORCEMENT AROUND SLAB OPENINGS.
    D. EQUIPMENT PADS AND SUPPORTS.
    E. BRICK KNEE WALL ELEVATION AND EXTENT.
    F. SIZE AND LOCATION OF NON-BEARING MASONRY PARTITIONS. SEE TYPICAL DETAILS FOR THICKENED SLAB AT MASONRY PARTITIONS.
13. MINIMUM SLAB ON GRADE THICKNESS OF 5 INCHES SHALL BE MAINTAINED AT ALL LOCATIONS. THIS INCLUDES BUT IS NOT LIMITED TO LOCATIONS OF DRAINS, DEPRESSIONS, FLOOR BOXES, AND EMBEDDED ITEMS PER M/E/P AND ARCHITECTURAL DRAWINGS.
14. WORK THIS DRAWING WITH:
    A. GENERAL NOTES: S001 SERIES.
    B. FOUNDATION TYPICAL DETAILS AND SECTIONS: S400 SERIES
    C. COLUMN SCHEDULE: S600 SERIES
15. IN ACCORDANCE WITH THE GEOTECHNICAL REPORT RECOMMENDATIONS, AN UNDERSLAB AND PERIMETER DRAIN SYSTEM SHALL BE INSTALLED TO PROTECT THE COMPLETED FLOOR SLAB AGAINST HYDROSTATIC UPLIFT FROM GROUND WATER. COORDINATE WITH ARCHITECTURAL, CIVIL, MECHANICAL AND PLUMBING DRAWINGS FOR WATER REMOVAL SYSTEM AND WATERPROOFING. THE UNDERDRAIN SYSTEM SHALL BE ON THE EMERGENCY GENERATOR. THE STRUCTURE IS NOT DESIGNED TO RESIST ANY HYDROSTATIC PRESSURES.

1 FOUNDATION/FIRST FLOOR FRAMING PLAN - AREA A
1/8" = 1'-0"

PROJECT NORTH
TRUE NORTH= 83.00°

FULLY SPRINKLERED
BID DOCUMENTS

#	Revision	Date

CONSULTANTS:

HOPE FURRER Associates, Inc.
SITE RESOURCES
leeandassociatesinc

SEAL

STATE OF MARYLAND — Hope Hughes Furrer — No. 10976 — PROFESSIONAL ENGINEER

ARCHITECTS/ENGINEERS:

AE WORKS

6587 Hamilton Avenue
Pittsburgh, Pennsylvania 15206
Ph: 412.287.7333 Fax: 412.287.7334
www.ae-works.com

AE Works Project Number:

Drawing Title
FOUNDATION/FIRST FLOOR FRAMING PLAN - AREA A

Approved: Project Director

Project Title:
Construct a New Residential Rehabilitation Treatment Program (RRTP) Building

Location: Perry Point VA Medical Center, Perry Point, MD 21902

Date: 6-11-15 | **Checked:** MAH | **Drawn:** MTH

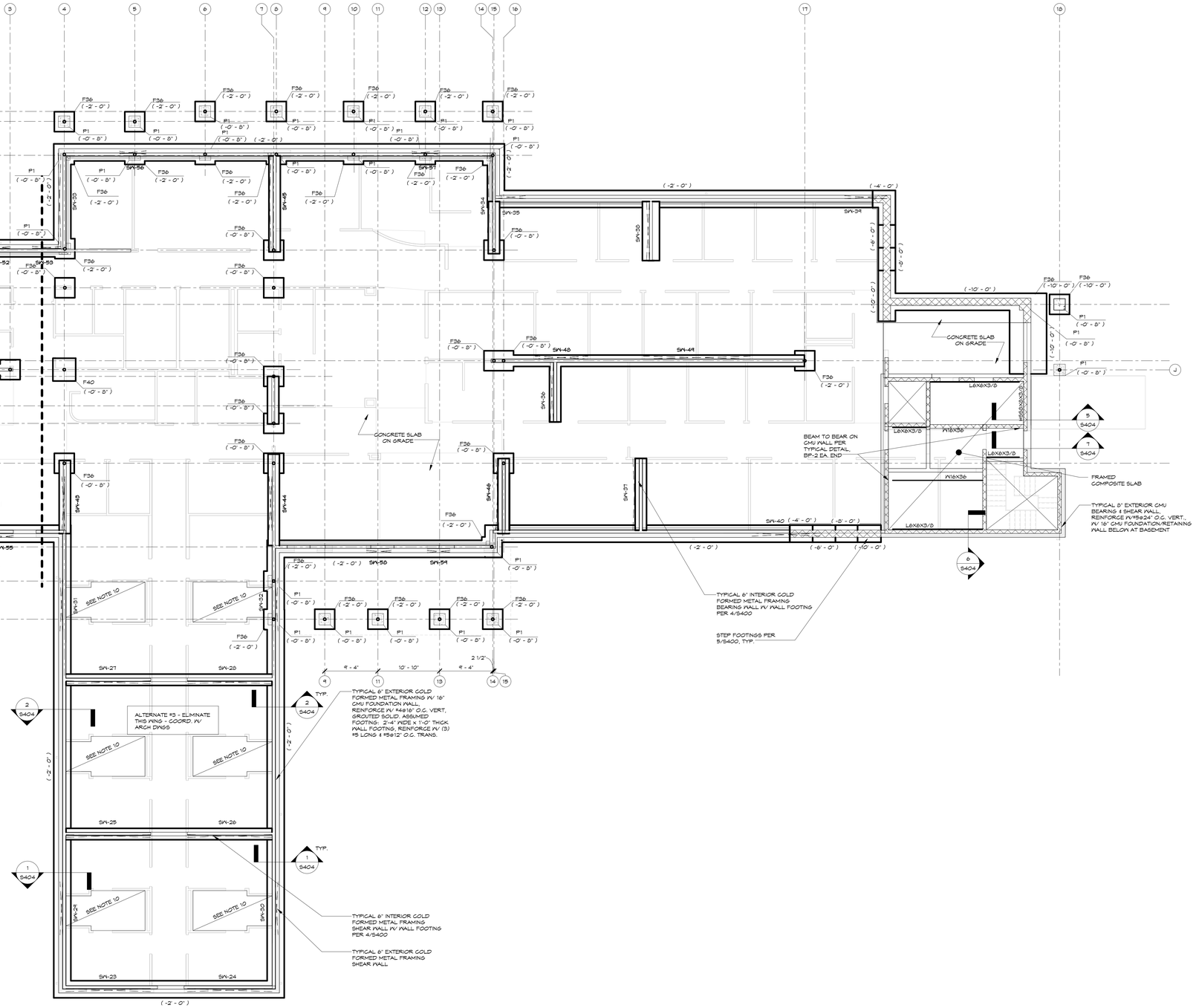
Project Number 512-531

Building Number

Drawing Number S101A

Office of Construction and Facilities Management
Department of Veterans Affairs

VA FORM 08-6231



FOUNDATION/FIRST FLOOR FRAMING PLAN - AREA B

1 1/8" = 1'-0"

FOUNDATION AND FIRST FLOOR FRAMING NOTES:

1. ELEVATION TOP OF FINISHED FIRST FLOOR SLAB EQUALS ELEVATION 311'-11" WHICH IS REFERENCE DATUM ELEVATION.
2. ALL ELEVATIONS NOTED ON PLAN ARE WITH RESPECT TO REFERENCE DATUM ELEVATION.
3. ALL FOOTINGS SHALL BE SPREAD FOOTINGS.
4. ELEVATIONS NOTED THUS (-0'-0") ARE TOP OF FOOTING ELEVATIONS.
5. ELEVATIONS NOTED THUS <-0'-0"> ARE TOP OF COLUMN PIER ELEVATIONS.
6. ELEVATION TOP OF ALL INTERIOR FOOTINGS SHALL BE (-0'-8") UNLESS NOTED OTHERWISE IN PLAN.
7. BOTTOM OF ALL EXTERIOR FOOTINGS SHALL BE MINIMUM 2'-6" BELOW FINISHED GRADE.
8. FIRST FLOOR SLAB IS PARTIALLY SLAB-ON-GRADE AND PARTIALLY FRAMED FLOOR. THE EXTENT OF EACH IS INDICATED ON PLAN.
9. FLOOR SLAB SHALL BE 5" THICK CONCRETE SLAB ON GRADE REINFORCED WITH 6 X 6 W2.0 X W2.0 WELDED WIRE REINFORCEMENT AND PLACED ON VAPOR BARRIER OVER MINIMUM 5" GRANULAR BASE.
10. SLAB DEPRESSION IN BATHROOMS. COORDINATE WITH ARCHITECTURAL DRAWINGS FOR SLAB DEPRESSION DIMENSION AND FOR TOPPING INFILL AND SLOPE GEOMETRY. SLAB ON GRADE SHALL BE MAINTAINED AS 5" THICK CONCRETE SLAB ON GRADE REINFORCED WITH 6 X 6 W2.0 X W2.0 WELDED WIRE REINFORCEMENT AND PLACED ON VAPOR BARRIER OVER MINIMUM 5" GRANULAR BASE. COORDINATE WITH TYPICAL DETAIL 2/S401 FOR SLAB ON GRADE REINFORCING AND LAYOUT AT SLAB DEPRESSIONS.
11. FRAMED FLOOR SHALL BE 3-1/4" L.W. CONCRETE TOPPING ON 2"X20 GA. GALV. COMPOSITE METAL DECK (5-1/4" TOTAL THICK.) REINFORCE SLAB WITH 6X6 - W1.4 X W1.4 WWR. DRAPE PER TYPICAL DETAILS.
12. SEE ARCHITECTURAL AND/OR MECHANICAL DRAWINGS FOR:
    A. LOCATION OF FLOOR DRAINS AND SLOPE OF FINISHED FLOOR.
    B. LOCATION AND EXTENT OF SLAB DEPRESSIONS AND RAMPS NOT SHOWN.
    C. SIZE AND LOCATION OF SLAB OPENINGS AND/OR MECHANICAL SLEEVES. SEE TYPICAL DETAILS FOR ADDITIONAL REINFORCEMENT AROUND SLAB OPENINGS.
    D. EQUIPMENT PADS AND SUPPORTS.
    E. BRICK KNEE WALL ELEVATION AND EXTENT.
    F. SIZE AND LOCATION OF NON-BEARING MASONRY PARTITIONS. SEE TYPICAL DETAILS FOR THICKENED SLAB AT MASONRY PARTITIONS.
13. MINIMUM SLAB ON GRADE THICKNESS OF 5 INCHES SHALL BE MAINTAINED AT ALL LOCATIONS. THIS INCLUDES BUT IS NOT LIMITED TO LOCATIONS OF DRAINS, DEPRESSIONS, FLOOR BOXES, AND EMBEDDED ITEMS PER M/E/P AND ARCHITECTURAL DRAWINGS.
14. WORK THIS DRAWING WITH:
    A. GENERAL NOTES: S001 SERIES
    B. FOUNDATION TYPICAL DETAILS AND SECTIONS: S400 SERIES
    C. COLUMN SCHEDULE: S600 SERIES
15. IN ACCORDANCE WITH THE GEOTECHNICAL REPORT RECOMMENDATIONS, AN UNDERSLAB AND PERIMETER DRAIN SYSTEM SHALL BE INSTALLED TO PROTECT THE COMPLETED FLOOR SLAB AGAINST HYDROSTATIC UPLIFT FROM GROUND WATER. COORDINATE WITH ARCHITECTURAL, CIVIL, MECHANICAL AND PLUMBING DRAWINGS FOR WATER REMOVAL SYSTEM AND WATERPROOFING. THE UNDERDRAIN SYSTEM SHALL BE ON THE EMERGENCY GENERATOR. THE STRUCTURE IS NOT DESIGNED TO RESIST ANY HYDROSTATIC PRESSURES.

PROJECT NORTH
TRUE NORTH= 83.00°

FULLY SPRINKLERED BID DOCUMENTS

#	Revision	Date

CONSULTANTS:

HOPE FURRER Associates, Inc. | SITE RESOURCES | leeandassociatesinc

SEAL

STATE OF MARYLAND — Walter Hughes Furrer — No. 10976 — PROFESSIONAL ENGINEER

ARCHITECTS/ENGINEERS:

AE WORKS

6587 Hamilton Avenue
Pittsburgh, Pennsylvania 15206
Ph: 412.287.7333 Fax: 412.287.7334
www.ae-works.com

AE Works Project Number:

Drawing Title
FOUNDATION/BASEMENT FLOOR & FIRST FLOOR FRAMING PLAN - AREA B

Approved: Project Director

Project Title:
Construct a New Residential Rehabilitation Treatment Program (RRTP) Building

Location: Perry Point VA Medical Center
Perry Point, MD 21902

Date:	Checked:	Drawn:
6-11-15	MAH	MTH

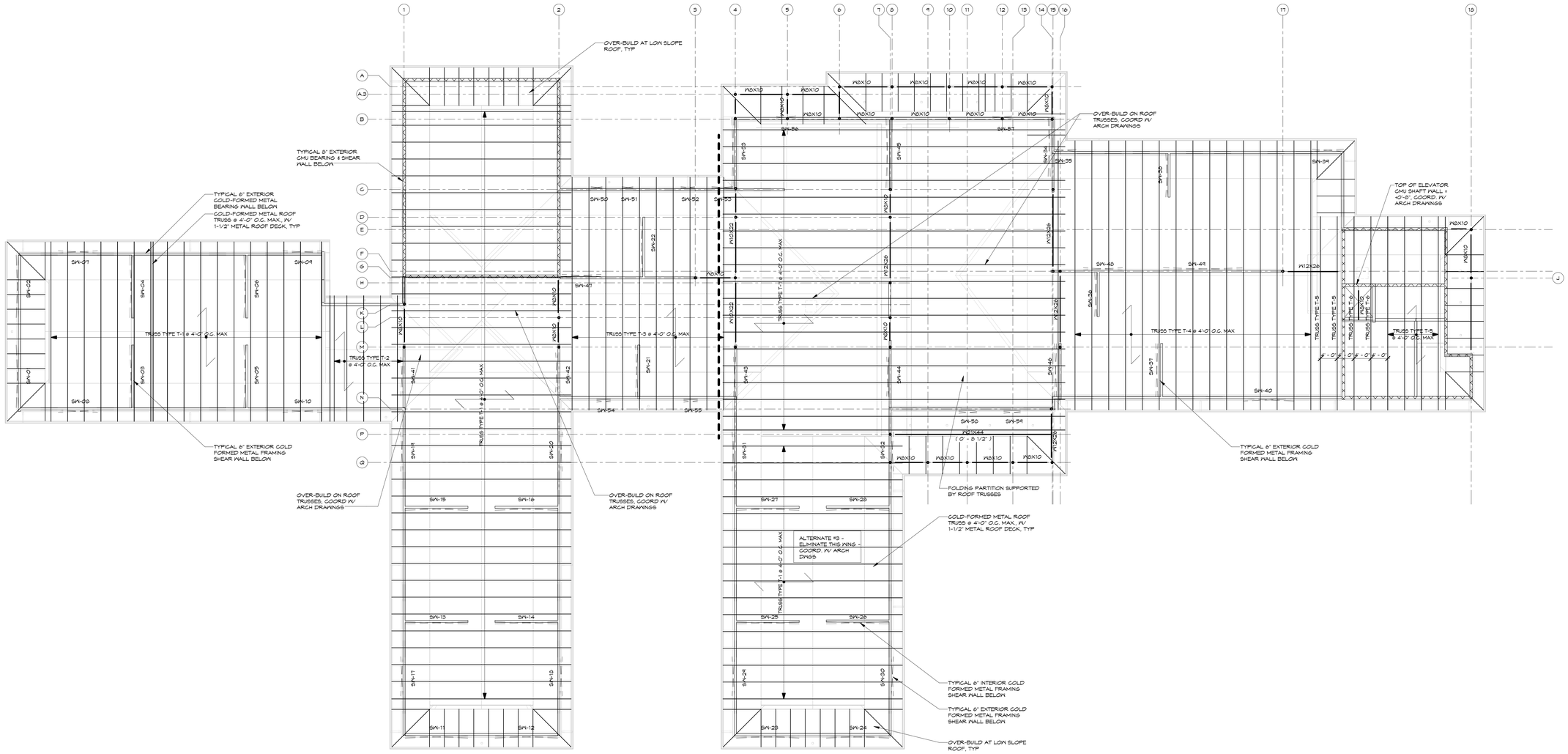
Project Number
512-531

Building Number

Drawing Number
S101B

Office of Construction and Facilities Management
Department of Veterans Affairs

VA FORM 08-6231



1 ROOF FRAMING PLAN - OVERALL
3/32" = 1'-0"

SEE SHEETS S102A AND S102B FOR PLAN NOTES AND ADDITIONAL INFORMATION.

PROJECT NORTH
TRUE NORTH= 83.00°

FULLY SPRINKLERED BID DOCUMENTS

#	Revision	Date

CONSULTANTS:

HOPE FURRER Associates, Inc.
SITE RESOURCES
leeandassociatesinc

SEAL

STATE OF MARYLAND — Mark Hughes Furrer — No. 10976 — PROFESSIONAL ENGINEER

ARCHITECTS/ENGINEERS:

AE WORKS

6587 Hamilton Avenue
Pittsburgh, Pennsylvania 15206
Ph: 412.287.7333 Fax: 412.287.7334
www.ae-works.com

AE Works Project Number:

Drawing Title: ROOF FRAMING PLAN - OVERALL

Approved: Project Director

Project Title: Construct a New Residential Rehabilitation Treatment Program (RRTP) Building

Location: Perry Point VA Medical Center, Perry Point, MD 21902

Date: 6-11-15 **Checked:** MAH **Drawn:** MTH

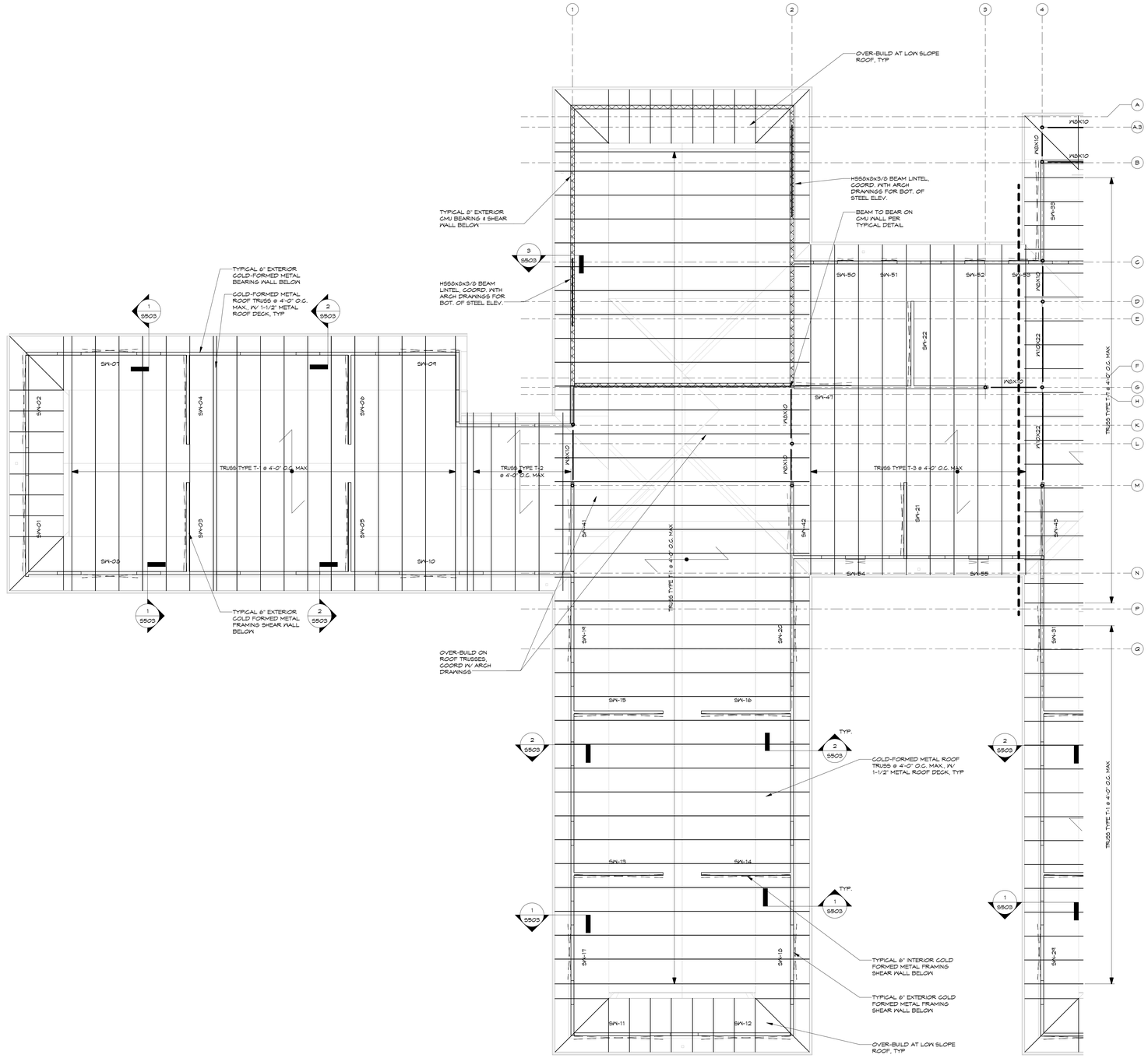
Project Number: 512-531

Building Number:

Drawing Number: S102

Office of Construction and Facilities Management
Department of Veterans Affairs

VA FORM 08-6231



ROOF FRAMING PLAN NOTES:

1. TOP OF STEEL ELEVATION = +12.0' AS MEASURED FROM REFERENCE DATUM.
2. ELEVATIONS NOTED THUS (-0") IN PLAN ARE MEASURED FROM TOP OF STEEL ELEVATION. SLOPE STEEL UNIFORMLY BETWEEN HIGH AND LOW POINTS.
3. ROOF FRAMING SHALL BE 1-1/2"X20 GA. GALVANIZED TYPE 'B' METAL DECK OVER PRE-ENGINEERED METAL ROOF TRUSSES.
4. ELEVATOR CAP SHALL BE 2-1/2" LW CONCRETE TOPPING ON 1-1/2"X20 GA. GALVANIZED COMPOSITE METAL DECK (4" TOTAL THICKNESS). REINFORCE SLAB WITH 6x6 W1.4xW1.4 WELDED WIRE REINFORCEMENT. TOP OF SLAB ELEVATION = +1'-1", COORD. WITH ARCH DRAWINGS AND SELECTED ELEVATOR MANUFACTURER.
5. ALL STEEL SHALL BE ASTM A992, UNLESS NOTED OTHERWISE.
6. SEE ARCHITECTURAL AND/OR MECHANICAL DRAWINGS FOR:
   A. LOCATION OF FLOOR DRAINS AND SLOPE OF FINISHED FLOOR.
   B. SIZE AND LOCATION OF SLAB OPENINGS AND/OR MECHANICAL SLEEVES.
7. WORK THIS DRAWING WITH:
   A. GENERAL NOTES: 9001 SERIES
   B. SUPERSTRUCTURE TYPICAL DETAILS AND SECTIONS: 55.00 SERIES
   C. COLUMN SCHEDULE: 56.00 SERIES
   D. TRUSS DIAGRAMS: 57.00 SERIES
8. COLUMNS NOTED THUS (A) IN PLAN ARE ABOVE.
9. COLUMNS NOTED THUS (B) IN PLAN ARE BELOW.
10. FILLER BEAM/JOIST LAYOUT IS BASED ON EQUAL SPACING BETWEEN COLUMN LINES, UNLESS NOTED OTHERWISE. COORDINATE WITH TYPICAL DETAILS AROUND OPENINGS.
11. VERIFY ALL DIMENSIONS WITH THE ARCHITECTURAL DRAWINGS. REPORT ANY DISCREPANCIES TO THE ARCHITECT FOR REVIEW.

1 ROOF FRAMING PLAN - AREA A
1/8" = 1'-0"

PROJECT NORTH
TRUE NORTH= 83.00°

FULLY SPRINKLERED BID DOCUMENTS

#	Revision	Date

CONSULTANTS:

HOPE FURRER Associates, Inc. | SITE RESOURCES | leeandassociatesinc

SEAL

STATE OF MARYLAND — Mark Hughes Farrer — No. 10976 — PROFESSIONAL ENGINEER

ARCHITECTS/ENGINEERS:

AE WORKS

6587 Hamilton Avenue
Pittsburgh, Pennsylvania 15206
Ph: 412.287.7333 Fax: 412.287.7334
www.ae-works.com

AE Works Project Number:

Drawing Title
ROOF FRAMING PLAN - AREA A

Approved: Project Director

Project Title:
Construct a New Residential Rehabilitation Treatment Program (RRTP) Building

Location: Perry Point VA Medical Center
Perry Point, MD 21902

Date: 6-11-15 | **Checked:** MAH | **Drawn:** MTH

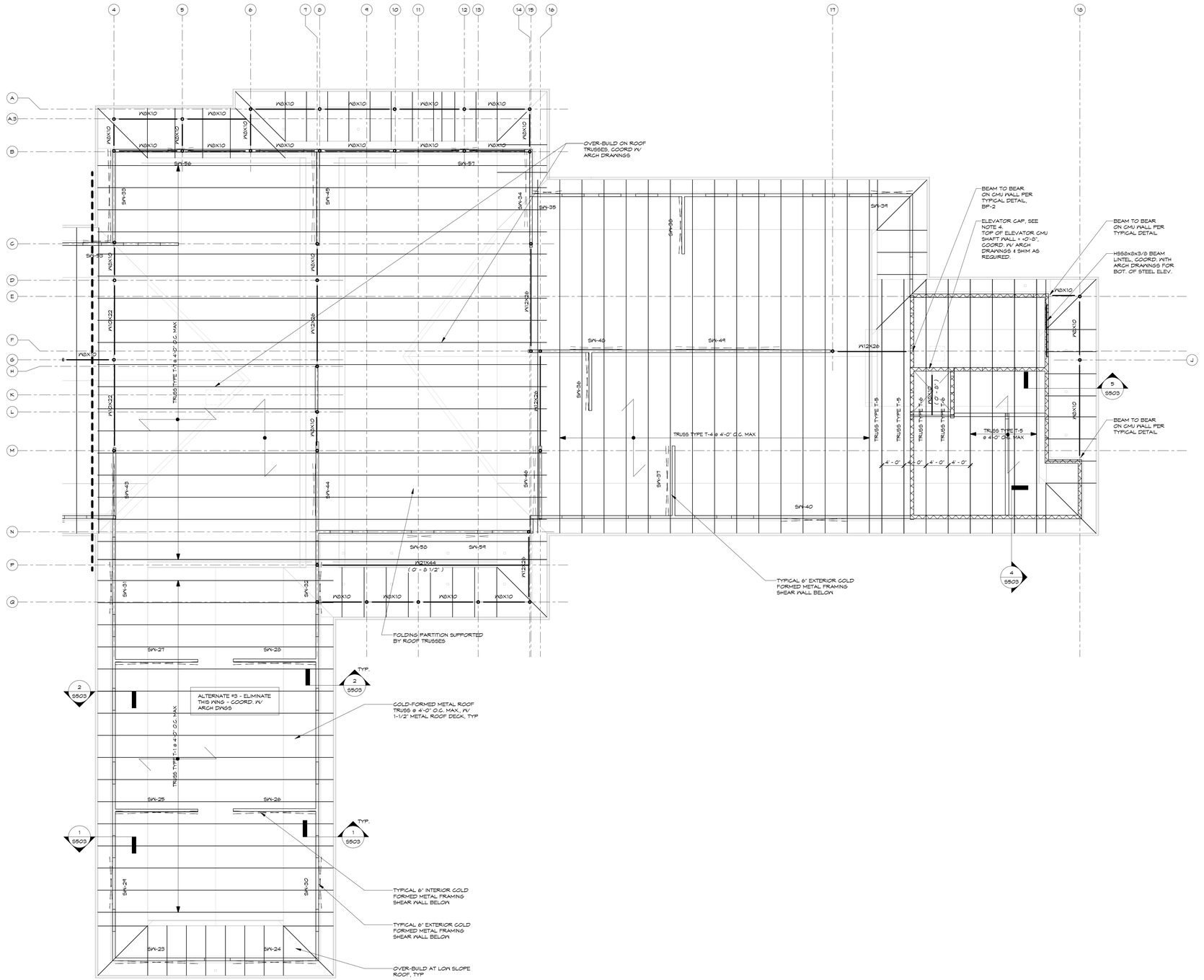
Project Number 512-531

Building Number

Drawing Number S102A

Office of Construction and Facilities Management
Department of Veterans Affairs

VA FORM 08-6231



1 ROOF FRAMING PLAN -AREA B
1/8" = 1'-0"

ROOF FRAMING PLAN NOTES:

1. TOP OF STEEL ELEVATION = +12.0' AS MEASURED FROM REFERENCE DATUM.
2. ELEVATIONS NOTED THUS (-0") IN PLAN ARE MEASURED FROM TOP OF STEEL ELEVATION. SLOPE STEEL UNIFORMLY BETWEEN HIGH AND LOW POINTS.
3. ROOF FRAMING SHALL BE 1-1/2"x20 GA. GALVANIZED TYPE 'B' METAL DECK OVER PRE-ENGINEERED METAL ROOF TRUSSES.
4. ELEVATOR CAP SHALL BE 2-1/2" LW CONCRETE TOPPING ON 1-1/2"x20 GA. GALVANIZED COMPOSITE METAL DECK (4" TOTAL THICKNESS). REINFORCE SLAB WITH 6x6 W1.4xW1.4 WELDED WIRE REINFORCEMENT. TOP OF SLAB ELEVATION = +1'-1", COORD. WITH ARCH DRAWINGS AND SELECTED ELEVATOR MANUFACTURER.
5. ALL STEEL SHALL BE ASTM A992, UNLESS NOTED OTHERWISE.
6. SEE ARCHITECTURAL AND/OR MECHANICAL DRAWINGS FOR:
   A. LOCATION OF FLOOR DRAINS AND SLOPE OF FINISHED FLOOR.
   B. SIZE AND LOCATION OF SLAB OPENINGS AND/OR MECHANICAL SLEEVES.
7. WORK THIS DRAWING WITH:
   A. GENERAL NOTES: S001 SERIES
   B. SUPERSTRUCTURE TYPICAL DETAILS AND SECTIONS: S5.00 SERIES
   C. COLUMN SCHEDULE: S6.00 SERIES
   D. TRUSS DIAGRAMS: S7.00 SERIES
8. COLUMNS NOTED THUS (A) IN PLAN ARE ABOVE.
9. COLUMNS NOTED THUS (B) IN PLAN ARE BELOW.
10. FILLER BEAM/JOIST LAYOUT IS BASED ON EQUAL SPACING BETWEEN COLUMN LINES, UNLESS NOTED OTHERWISE. COORDINATE WITH TYPICAL DETAILS AROUND OPENINGS.
11. VERIFY ALL DIMENSIONS WITH THE ARCHITECTURAL DRAWINGS. REPORT ANY DISCREPANCIES TO THE ARCHITECT FOR REVIEW.

PROJECT NORTH
TRUE NORTH= 83.00°

FULLY SPRINKLERED BID DOCUMENTS

#	Revision	Date

CONSULTANTS:

HOPE FURRER Associates, Inc.
SITE RESOURCES
leeandassociatesinc

SEAL

STATE OF MARYLAND — Hope Hughes Furrer — No. 10976 — PROFESSIONAL ENGINEER

ARCHITECTS/ENGINEERS:

AE WORKS

6587 Hamilton Avenue
Pittsburgh, Pennsylvania 15206
Ph: 412.287.7333 Fax: 412.287.7334
www.ae-works.com

AE Works Project Number:

Drawing Title
ROOF FRAMING PLAN - AREA B

Approved: Project Director

Project Title:
Construct a New Residential Rehabilitation Treatment Program (RRTP) Building

Location: Perry Point VA Medical Center, Perry Point, MD 21902

Date: 6-11-15 | **Checked:** MAH | **Drawn:** MTH

Project Number 512-531

Building Number

Drawing Number S102B

Office of Construction and Facilities Management
Department of Veterans Affairs

VA FORM 08-6231

SHEAR WALL SCHEDULE

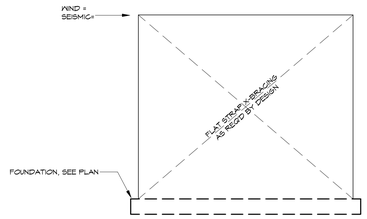
MARK	APPROXIMATE WIDTH	HORIZONTAL LOAD FROM WIND	HORIZONTAL LOAD FROM SEISMIC	VERTICAL DEAD LOAD	VERTICAL DEAD LOAD
SW-01	14'-6"	4.8 KIP	0.5 KIP	0.225 KIP/FT	0.25 KIP/FT
SW-02	14'-6"	4.8 KIP	0.5 KIP	0.225 KIP/FT	0.25 KIP/FT
SW-03	14'-6"	9.6 KIP	1.25 KIP	0.1 KIP/FT	0.1 KIP/FT
SW-04	14'-6"	9.6 KIP	1.25 KIP	0.1 KIP/FT	0.1 KIP/FT
SW-05	14'-6"	11.4 KIP	1.5 KIP	0.1 KIP/FT	0.1 KIP/FT
SW-06	14'-6"	11.4 KIP	1.5 KIP	0.1 KIP/FT	0.1 KIP/FT
SW-07	9'-6"	5.6 KIP	1.5 KIP	0.525 KIP/FT	0.625 KIP/FT
SW-08	9'-6"	5.6 KIP	1.5 KIP	0.525 KIP/FT	0.625 KIP/FT
SW-09	9'-6"	5.6 KIP	1.5 KIP	0.525 KIP/FT	0.625 KIP/FT
SW-10	9'-6"	5.6 KIP	1.5 KIP	0.525 KIP/FT	0.625 KIP/FT
SW-11	14'-6"	4.1 KIP	0.5 KIP	0.225 KIP/FT	0.25 KIP/FT
SW-12	14'-6"	4.1 KIP	0.5 KIP	0.225 KIP/FT	0.25 KIP/FT
SW-13	14'-6"	8.2 KIP	1.25 KIP	0.1 KIP/FT	0.1 KIP/FT
SW-14	14'-6"	8.2 KIP	1.25 KIP	0.1 KIP/FT	0.1 KIP/FT
SW-15	14'-6"	9.6 KIP	1.5 KIP	0.1 KIP/FT	0.1 KIP/FT
SW-16	14'-6"	9.6 KIP	1.5 KIP	0.1 KIP/FT	0.1 KIP/FT
SW-17	9'-6"	6.6 KIP	1.5 KIP	0.525 KIP/FT	0.625 KIP/FT
SW-18	9'-6"	6.6 KIP	1.5 KIP	0.525 KIP/FT	0.625 KIP/FT
SW-19	9'-6"	6.6 KIP	1.5 KIP	0.525 KIP/FT	0.625 KIP/FT
SW-20	9'-6"	6.6 KIP	1.5 KIP	0.525 KIP/FT	0.625 KIP/FT
SW-21	12'-0"	8.0 KIP	1.75 KIP	0.1 KIP/FT	0.1 KIP/FT
SW-22	14'-0"	8.0 KIP	1.75 KIP	0.1 KIP/FT	0.1 KIP/FT
SW-23	14'-6"	4.1 KIP	0.5 KIP	0.225 KIP/FT	0.25 KIP/FT
SW-24	14'-6"	4.1 KIP	0.5 KIP	0.225 KIP/FT	0.25 KIP/FT
SW-25	14'-6"	8.2 KIP	1.25 KIP	0.1 KIP/FT	0.1 KIP/FT
SW-26	14'-6"	8.2 KIP	1.25 KIP	0.1 KIP/FT	0.1 KIP/FT
SW-27	14'-6"	9.6 KIP	1.5 KIP	0.1 KIP/FT	0.1 KIP/FT
SW-28	14'-6"	9.6 KIP	1.5 KIP	0.1 KIP/FT	0.1 KIP/FT
SW-29	9'-6"	6.6 KIP	1.5 KIP	0.525 KIP/FT	0.625 KIP/FT
SW-30	9'-6"	6.6 KIP	1.5 KIP	0.525 KIP/FT	0.625 KIP/FT

SHEAR WALL SCHEDULE NOTES:
1. LOADS PROVIDED ARE SERVICE LOADS TO BE USED BY CONTRACTOR FOR LIGHT GAUGE SHEAR WALL DESIGN. LATERAL LOADS OCCUR IN EITHER DIRECTION.
2. SEE PLAN FOR WALL LOCATIONS.
3. COORDINATE WITH ARCHITECTURAL DRAWINGS FOR FINAL WALL WIDTH AND WALL HEIGHTS.

SHEAR WALL SCHEDULE

MARK	APPROXIMATE WIDTH	HORIZONTAL LOAD FROM WIND	HORIZONTAL LOAD FROM SEISMIC	VERTICAL DEAD LOAD	VERTICAL DEAD LOAD
SW-31	9'-6"	6.6 KIP	1.75 KIP	0.525 KIP/FT	0.625 KIP/FT
SW-32	9'-6"	6.6 KIP	1.75 KIP	0.525 KIP/FT	0.625 KIP/FT
SW-33	16'-0"	12.2 KIP	1.25 KIP	0.525 KIP/FT	0.625 KIP/FT
SW-34	14'-0"	12.0 KIP	1.25 KIP	0.525 KIP/FT	0.625 KIP/FT
SW-35	5'-0"	3.6 KIP	1.25 KIP	0.45 KIP/FT	0.5 KIP/FT
SW-36	10'-0"	7.2 KIP	1.5 KIP	0.1 KIP/FT	0.1 KIP/FT
SW-37	12'-6"	9.0 KIP	3.75 KIP	0.1 KIP/FT	0.1 KIP/FT
SW-38	10'-0"	7.2 KIP	2.5 KIP	0.1 KIP/FT	0.1 KIP/FT
SW-39	7'-6"	5.4 KIP	1.75 KIP	0.45 KIP/FT	0.5 KIP/FT
SW-40	12'-0"	5.5 KIP	3.0 KIP	0.45 KIP/FT	0.5 KIP/FT
SW-41	10'-0"	4.4 KIP	1.0 KIP	0.525 KIP/FT	0.625 KIP/FT
SW-42	10'-0"	3.3 KIP	1.0 KIP	0.525 KIP/FT	0.625 KIP/FT
SW-43	10'-0"	7.6 KIP	0.75 KIP	0.525 KIP/FT	0.625 KIP/FT
SW-44	14'-0"	10.4 KIP	0.75 KIP	0.975 KIP/FT	1.175 KIP/FT
SW-45	16'-0"	16.6 KIP	1.25 KIP	0.975 KIP/FT	1.175 KIP/FT
SW-46	12'-6"	10.7 KIP	1.0 KIP	0.525 KIP/FT	0.625 KIP/FT
SW-47	9'-6"	3.9 KIP	1.75 KIP	0.625 KIP/FT	0.750 KIP/FT
SW-48	9'-6"	3.9 KIP	1.75 KIP	0.725 KIP/FT	0.875 KIP/FT
SW-49	18'-0"	7.3 KIP	3.25 KIP	0.725 KIP/FT	0.875 KIP/FT
SW-50	2'-5"	1.3 KIP	1.0 KIP	0.275 KIP/FT	0.325 KIP/FT
SW-51	2'-5"	1.3 KIP	1.0 KIP	0.275 KIP/FT	0.325 KIP/FT
SW-52	3'-4"	1.6 KIP	1.0 KIP	0.275 KIP/FT	0.325 KIP/FT
SW-53	5'-0"	2.3 KIP	1.5 KIP	0.275 KIP/FT	0.325 KIP/FT
SW-54	3'-4"	2.2 KIP	1.0 KIP	0.365 KIP/FT	0.435 KIP/FT
SW-55	3'-4"	2.2 KIP	1.0 KIP	0.365 KIP/FT	0.435 KIP/FT
SW-56	4'-8"	2.2 KIP	1.5 KIP	0.1 KIP/FT	0.1 KIP/FT
SW-57	4'-8"	2.2 KIP	1.5 KIP	0.1 KIP/FT	0.1 KIP/FT
SW-58	4'-0"	2.6 KIP	1.25 KIP	0.1 KIP/FT	0.1 KIP/FT
SW-59	4'-0"	2.6 KIP	1.25 KIP	0.1 KIP/FT	0.1 KIP/FT

SHEAR WALL SCHEDULE NOTES:
1. LOADS PROVIDED ARE SERVICE LOADS TO BE USED BY CONTRACTOR FOR LIGHT GAUGE SHEAR WALL DESIGN. LATERAL LOADS OCCUR IN EITHER DIRECTION.
2. SEE PLAN FOR WALL LOCATIONS.
3. COORDINATE WITH ARCHITECTURAL DRAWINGS FOR FINAL WALL WIDTH AND WALL HEIGHTS.



NOTES:
1. SEE PLAN FOR SHEAR WALL LOCATIONS.
2. SEE SHEAR WALL SCHEDULE FOR DESIGN LOADS.

DETAIL 1/S300 — 1/4" = 1'-0"

SHEAR WALL ELEVATION

PROJECT NORTH
TRUE NORTH= 83.00°

FULLY SPRINKLERED BID DOCUMENTS

#	Revision	Date

CONSULTANTS:

HOPE FURRER Associates, Inc. | SITE RESOURCES | leeandassociatesinc

SEAL

STATE OF MARYLAND — Hope Hughes Furrer — No. 10976 — PROFESSIONAL ENGINEER

ARCHITECTS/ENGINEERS:

AE WORKS

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www.ae-works.com

AE Works Project Number:

Drawing Title
LATERAL BRACING

Approved: Project Director

Project Title:
Construct a New Residential Rehabilitation Treatment Program (RRTP) Building

Location: Perry Point VA Medical Center
Perry Point, MD 21902

Date:	Checked:	Drawn:
6-11-15	MAH	MTH

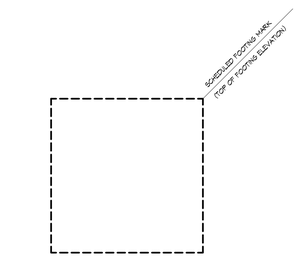
Project Number
512-531

Building Number

Drawing Number
S300

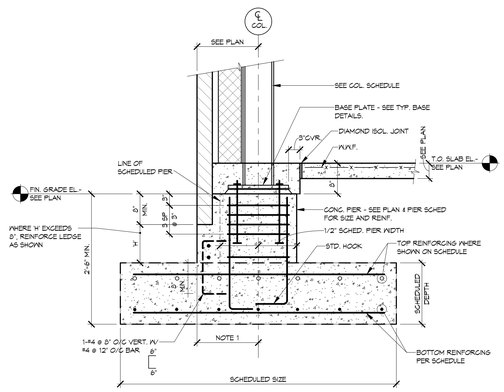
Office of Construction and Facilities Management
Department of Veterans Affairs

VA FORM 08-6231



DETAIL 1/S400 3/4" = 1'-0"

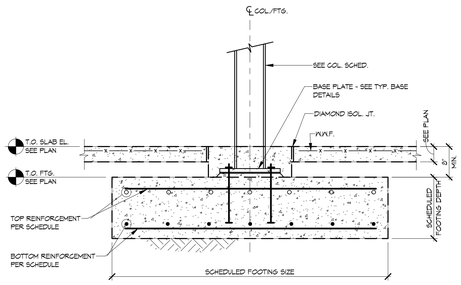
TYPICAL SPREAD FOOTING DESIGNATION



NOTES:
1. SCHEDULED PIER WIDTH ON EXTERIOR SIDE OF PIER IS A MINIMUM DIMENSION OF 1/2 THE SCHEDULED WIDTH UNLESS NOTED OTHERWISE. FACE OF PIER AT AN EXTERIOR CONDITION SHALL MATCH FACE OF LEDGE OR GRADE BEAM.

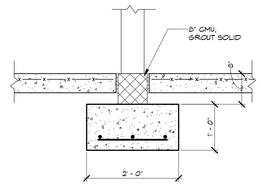
DETAIL 2/S400 3/4" = 1'-0"

TYPICAL COLUMN FOUNDATION AT EXTERIOR WALL



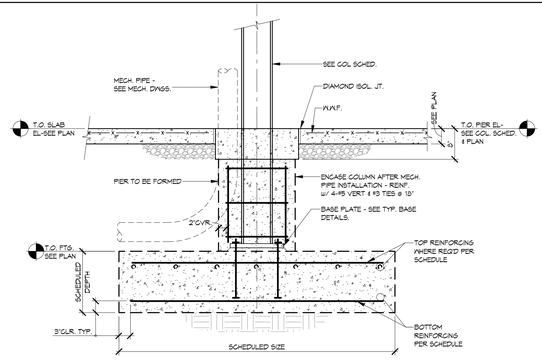
DETAIL 3/S400 3/4" = 1'-0"

TYPICAL INTERIOR COLUMN FOOTING WITHOUT PIER



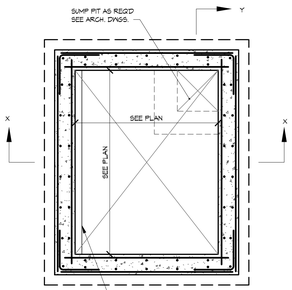
DETAIL 4/S400 3/4" = 1'-0"

WALL FOOTING AT GAUGE BEARING & SHEAR WALL

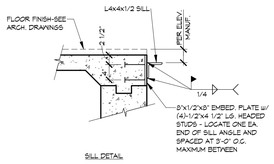


DETAIL 5S/S400 3/4" = 1'-0"

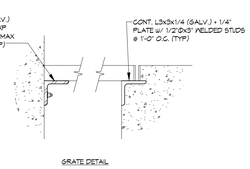
TYPICAL INTERIOR COLUMN FOOTING AT MECHANICAL PIPE



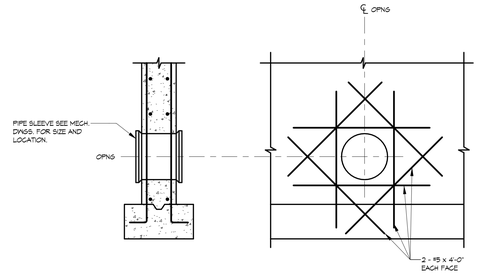
PLAN



SILL DETAIL

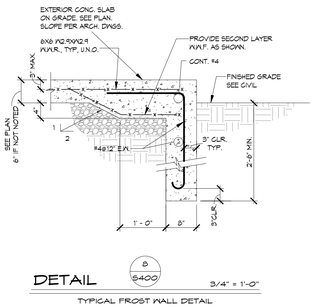


GRATE DETAIL



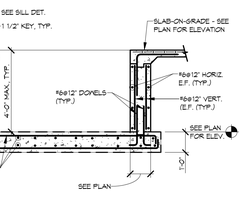
DETAIL 7/S400 3/4" = 1'-0"

UTILITY PIPE THROUGH WALL

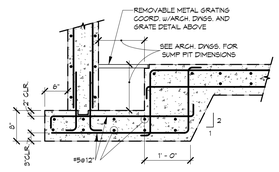


DETAIL 8/S400 3/4" = 1'-0"

TYPICAL FROST WALL DETAIL



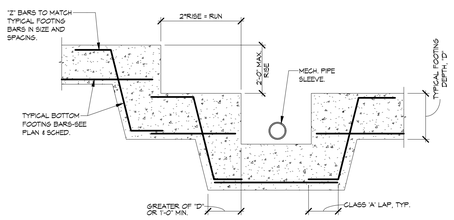
SECTION X-X



SECTION Y

DETAIL 6/S400 3/4" = 1'-0"

ELEVATOR PIT



NOTES:
1. TYP. STEP FOOTING AS INDICATED IN PLAN AND AS REQ'D TO PASS UNDER MECH. PIPES. COORD. LOCATION W/ CIVIL & MECH. DRAWINGS.
2. TRANSVERSE BARS NOT SHOWN FOR CLARITY.
3. TOP BARS ARE NOT SHOWN. WHERE TOP BARS OCCUR, PROVIDE "Z" TOP BARS AT STEP IN ADDITION TO THAT SHOWN.

DETAIL 9/S400 3/4" = 1'-0"

TYPICAL STEP FOOTING DETAIL

TENSION LAP SPLICE & TENSION DEVELOPMENT LENGTH SCHEDULE
Fy = 60 KSI

(ACI 318-05)

	BAR SIZE	VERTICAL & BOTTOM BARS L_D	L_A	L_B	TOP BARS * L_{DT}	L_{AT}	L_{BT}
f'c = 3,000 PSI	3	25	25	32	32	32	42
	4	33	33	43	43	43	56
	5	41	41	54	54	54	70
	6	50	50	64	64	64	84
	7	72	72	94	94	94	122
	8	82	82	107	107	107	138
	9	93	93	121	121	121	157
	10	105	105	136	136	136	177
	11	116	116	151	151	151	196
	14	134	--	--	181	--	--
	18	186	--	--	241	--	--
f'c = 4,000 PSI OR GREATER	3	22	22	28	28	28	36
	4	29	29	37	37	37	48
	5	36	36	47	47	47	60
	6	43	43	56	56	56	72
	7	63	63	81	81	81	105
	8	71	71	93	93	93	121
	9	81	81	105	105	105	136
	10	91	91	118	118	118	153
	11	101	101	131	131	131	170
	14	121	--	--	157	--	--
	18	161	--	--	209	--	--

* HORIZONTAL BARS WITH MORE THAN 12" OF CONC. BELOW.

NOTES:
1. ALL LAP SPLICES SHALL BE L OR L , U.N.O. BT
2. L , L B = STRAIGHT TENSION DEV. LENGTH IN INCHES.
   L A, L AT = CLASS A TENSION LAP SPLICE LENGTH IN INCHES.
   L B L BT = CLASS B TENSION LAP SPLICE LENGTH IN INCHES.
3. SPLICE AND DEVELOPMENT LENGTHS INDICATED ARE FOR WORST CASE SITUATIONS, WITH NO LIMITS ON COVER OR BAR SPACING.
4. CONTRACTOR MAY REDUCE SCHEDULED LENGTHS IN ACCORDANCE WITH CH. 12 OF ACI 318 CODE TO ACCOUNT FOR ACTUAL BAR SPACING, AMOUNT OF COVER, AND ENCLOSING TRANSVERSE REINFORCEMENT. THE SHOP DRAWINGS SHALL CLEARLY SHOW ALL SPLICE AND DEVELOPMENT LENGTHS WHICH DIFFER FROM THIS SCHED.
5. INCREASE LENGTHS 30% FOR LIGHTWEIGHT CONCRETE.
6. INCREASE LENGTHS 50% FOR EPOXY COATED REINF., EXCEPT FOR TOP BARS, INCREASE 30%.
7. LAP LENGTH SHALL BE BASED ON THE LARGER BAR DIAMETER BEING LAPPED.
8. IF THE REQ'D f'c IS NOT INCLUDED IN THE ABOVE SCHEDULE, USE THE NEXT LOWEST f'c TO DETERMINE BAR DEVELOPMENT LENGTH.

FOOTING SCHEDULE

MARK	SIZE	DEPTH	REINFORCING
F36	3'-6" x 3'-6"	1'-0"	(3) #5 BOTTOM, EACH WAY
F40	4'-0" x 4'-0"	1'-0"	(4) #5 BOTTOM, EACH WAY

CONCRETE PIER SCHEDULE

MARK	SIZE	VERTICAL REINFORCING QUANTITY & SIZE	TIE SIZE AND SPACING
P1	2'-0" x 2'-0"	(8) #8	#4@15" O.C.

NOTES:
SEE PLAN FOR PIER MARKS AND LOCATIONS.

PROJECT NORTH
TRUE NORTH= 83.00°

FULLY SPRINKLERED BID DOCUMENTS

#	Revision	Date

CONSULTANTS:

HOPE FURRER Associates, Inc. | SITE RESOURCES | leeandassociatesinc

SEAL

STATE OF MARYLAND — Mark Hughes Farrar — No. 10976 — PROFESSIONAL ENGINEER

ARCHITECTS/ENGINEERS:

AE WORKS

6587 Hamilton Avenue
Pittsburgh, Pennsylvania 15206
Ph: 412.287.7333 Fax: 412.287.7334
www.ae-works.com

AE Works Project Number:

Drawing Title: TYPICAL FOUNDATION DETAILS

Approved: Project Director

Project Title: Construct a New Residential Rehabilitation Treatment Program (RRTP) Building

Location: Perry Point VA Medical Center, Perry Point, MD 21902

Date: 6-11-15 | **Checked:** MAH | **Drawn:** MTH

Project Number: 512-531

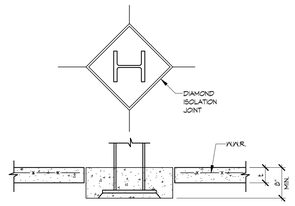
Building Number:

Drawing Number: S400

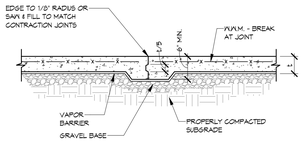
Office of Construction and Facilities Management

Department of Veterans Affairs

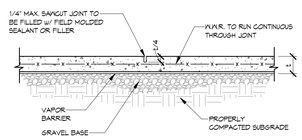
VA FORM 08-6231



ISOLATION JOINT AT COLUMN



CONSTRUCTION JOINT

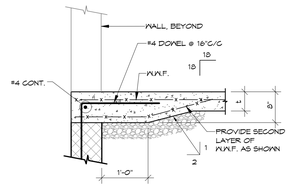


CONTRACTION JOINT

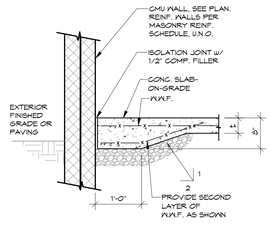
NOTE:
CONTRACTOR IS RESPONSIBLE FOR IN-PLACE QUALITY OF SLAB-ON-GRADE. CONSTRUCTION JOINTS SHALL BE PLACED IN THE SLAB WHERE THE CONTRACTORS CONCRETING OPERATIONS ARE TO CONCLUDE OR BE INTERUPTED. CONSTRUCTION JOINT LOCATION SHOULD CONFORM TO PREDETERMINED CONTRACTION JOINT LAYOUT, SUBMITTED BY THE CONTRACTOR. CONTRACTION JOINTS SHALL BE LOCATED ON COLUMN CENTERLINES WITH INTERMEDIATE JOINTS LOCATED BETWEEN COLUMN LINES AS REQUIRED TO PROVIDE A MAXIMUM DISTANCE BETWEEN JOINTS OF 15'-0, WITH A MAXIMUM RECOMMENDED PANEL LENGTH RATIO OF 1.5:1. ISOLATION JOINT SHOULD BE LOCATED AT JUNCTIONS WITH WALLS, COLUMNS, ETC., UNLESS NOTED OTHERWISE.

DETAIL 1/S401 3/4" = 1'-0"

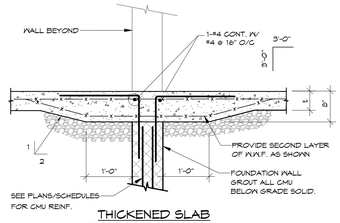
TYPICAL SLAB-ON-GRADE JOINT DETAILS



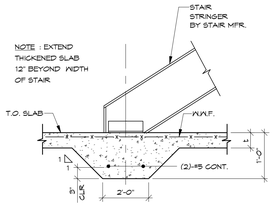
THICKENED SLAB AT EXTERIOR DOOR



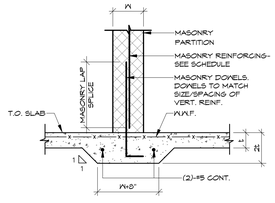
THICKENED SLAB AT WALL



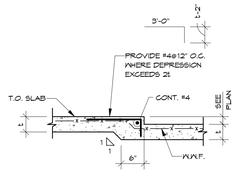
THICKENED SLAB OVER INTERIOR WALL



THICKENED SLAB UNDER STAIRS



THICKENED SLAB UNDER MASONRY PARTITION WALLS



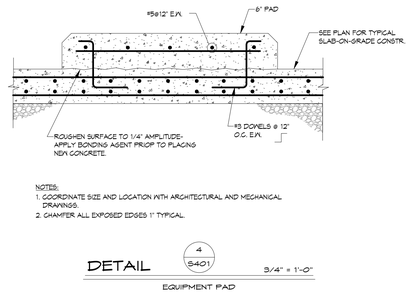
SLAB DEPRESSION

DETAIL 2/S401 3/4" = 1'-0"

TYPICAL SLAB-ON-GRADE DETAILS

DETAIL 3/S401 3/4" = 1'-0"

TYPICAL SLAB-ON-GRADE CRACK CONTROL BARS



NOTES:
1. COORDINATE SIZE AND LOCATION WITH ARCHITECTURAL AND MECHANICAL DRAWINGS.
2. CHAMFER ALL EXPOSED EDGES 1" TYPICAL.

DETAIL 4/S401 3/4" = 1'-0"

EQUIPMENT PAD

PROJECT NORTH
TRUE NORTH= 83.00°

FULLY SPRINKLERED
BID DOCUMENTS

#	Revision	Date

CONSULTANTS:

HOPE FURRER Associates, Inc.
SITE RESOURCES
leeandassociatesinc

SEAL

STATE OF MARYLAND — Hope Hughes Furrer No. 10976 — PROFESSIONAL ENGINEER

ARCHITECTS/ENGINEERS:

AE WORKS

6587 Hamilton Avenue
Pittsburgh, Pennsylvania 15206
Ph: 412.287.7333 Fax: 412.287.7334
www.ae-works.com

AE Works Project Number:

Drawing Title
TYPICAL SLAB ON GRADE DETAILS

Approved: Project Director

Project Title:
Construct a New Residential Rehabilitation Treatment Program (RRTP) Building

Location: Perry Point VA Medical Center
Perry Point, MD 21902

Date: 6-11-15 | **Checked:** MAH | **Drawn:** MTH

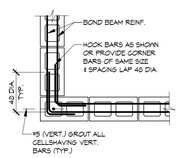
Project Number 512-531

Building Number

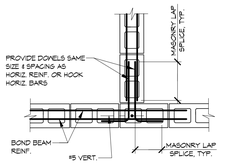
Drawing Number S401

Office of Construction and Facilities Management
Department of Veterans Affairs

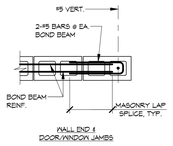
VA FORM 08-6231



CORNER



INTERSECTION



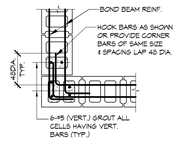
WALL END // DOOR/WINDOW JAMBS

NOTES:
1. CORNERS AND INTERSECTIONS
UNLESS OTHERWISE NOTED OR SPECIFIED, AT POINTS WHERE CONCRETE MASONRY WALLS MEET OR INTERSECT, LAY 50% OF UNITS IN MASONRY BOND WITH ALTERNATE UNITS HAVING A BEARING ON NOT LESS THAN 4 INCHES ON THE UNIT BELOW

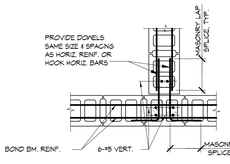
2. DOWELS
UNLESS OTHERWISE NOTED OR SPECIFIED, PROVIDE DOWELS FROM CONCRETE FOOTING OR WALL BELOW WITH SAME SIZE AND SPACING AS VERTICAL BARS AT LEVEL BELOW. LAP 48 BAR DIAMETERS MINIMUM U.N.O.

DETAIL 1/S402 3/4" = 1'-0"

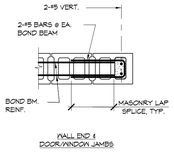
TYPICAL 6", 8" & 10" MASONRY WALL DETAILS



CORNER



INTERSECTION



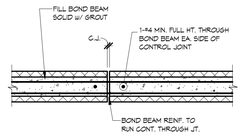
WALL END // DOOR/WINDOW JAMBS

NOTES:
1. CORNERS AND INTERSECTIONS
UNLESS OTHERWISE NOTED OR SPECIFIED, AT POINTS WHERE CONCRETE MASONRY WALLS MEET OR INTERSECT, LAY 50% OF UNITS IN MASONRY BOND WITH ALTERNATE UNITS HAVING A BEARING ON NOT LESS THAN 4 INCHES ON THE UNIT BELOW

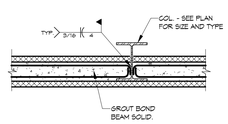
2. DOWELS
UNLESS OTHERWISE NOTED OR SPECIFIED, PROVIDE DOWELS FROM CONCRETE FOOTING OR WALL BELOW WITH SAME SIZE AND SPACING AS VERTICAL BARS AT LEVEL BELOW. LAP 48 BAR DIAMETERS MINIMUM U.N.O.

DETAIL 2/S402 3/4" = 1'-0"

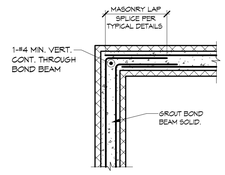
TYPICAL 12", 14" & 16" MASONRY WALL DETAILS



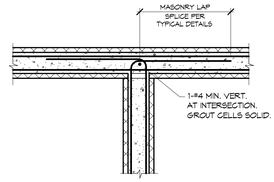
TYPICAL BOND BEAM CONTROL JOINT



TYPICAL BOND BEAM AT COLUMN



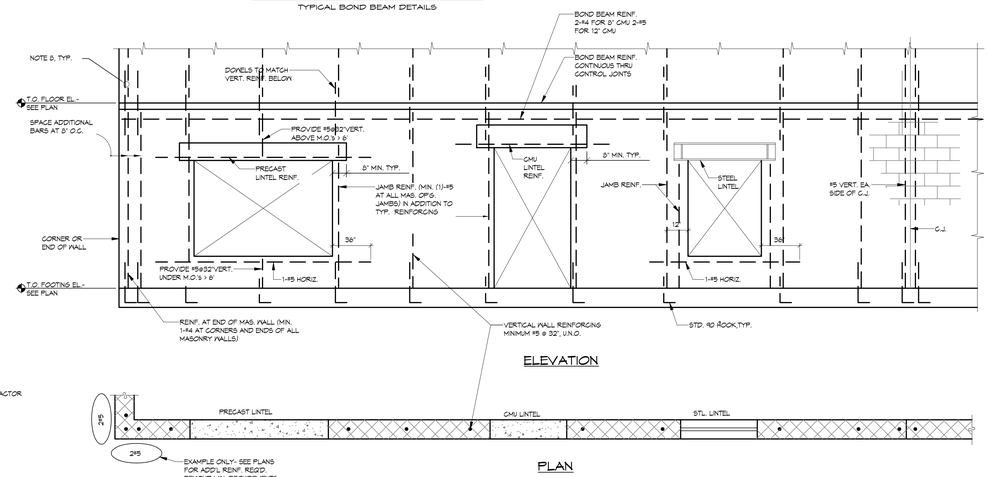
TYPICAL BOND BEAM CORNER



TYPICAL BOND BEAM INTERSECTION

DETAIL 3/S402 3/4" = 1'-0"

TYPICAL BOND BEAM DETAILS



ELEVATION

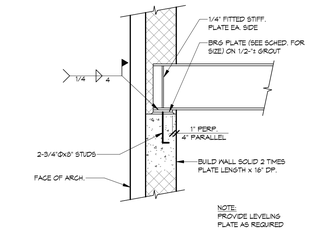
PLAN

TYPICAL MASONRY WALL REINFORCING DETAILS

1. PROVIDE HORIZONTAL JOINT REINFORCING AT 8" O.C. IN FOUNDATION WALLS AND PARAPET WALLS. PROVIDE HORIZONTAL JOINT REINFORCING AT 16" O.C. IN ALL OTHER WALLS, U.N.O. SEE GENERAL NOTES ON DRAWING S0.1 FOR ADDITIONAL INFORMATION.
2. GROUT CELLS AT REINFORCING ONLY, U.N.O. IN ARCH. DRAWINGS
3. GROUT JAMBS OF MASONRY OPENINGS SOLID FOR FULL HEIGHT BENEATH LINTELS AND BEAMS.
4. PROVIDE FOOTING DOWELS TO MATCH VERTICAL WALL REINF.
5. WHERE NOT NOTED, PROVIDE 2-#5 CONT. BOND BEAM REINF.
6. WHERE REINF. IS NOT NOTED ON PLAN OR SECTION, REINF. PER " MASONRY REINFORCING SCHEDULE"
7. ALL CELLS WITH REINFORCING SHALL BE GROUTED SOLID.
8. LAP BARS PER MASONRY LAP SCHEDULE.

DETAIL 6/S402 3/4" = 1'-0"

TYPICAL MASONRY WALL REINFORCING DETAILS



NOTE:
PROVIDE LEVELING PLATE AS REQUIRED

BEARING PL SCHEDULE

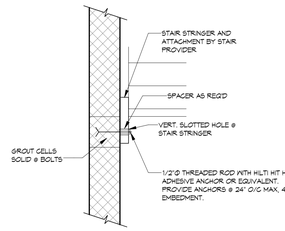
TYPE	SIZE
BP-1	6"x1/2"x8"
BP-2	8"x3/4"x10"
BP-3	7"x3/4"x1'-0"
BP-4	10"x1"x1'-2"
BP-5	7"x1"x1'-4"

NOTE:
PROVIDE BEARING PLATE BP-1 FOR ALL STEEL BEAMS BRG. ON MASONRY, INCLUDING BEAM LINTELS, U.N.O. IN PLAN OR SECTION.

NOTES:
1. WHERE BEAM IS PERPENDICULAR TO WALL, PROVIDE BOND BEAM IMMEDIATELY BELOW BEARING ELEVATION (CONTINUOUS), REINF. W/(2)-#5 CONT. + GROUT SOLID

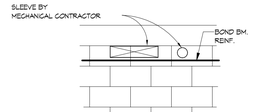
DETAIL 4/S402 3/4" = 1'-0"

TYPICAL BEAM BEARING ON MASONRY WALL

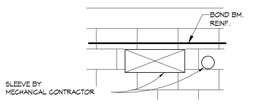


DETAIL 5/S402 3/4" = 1'-0"

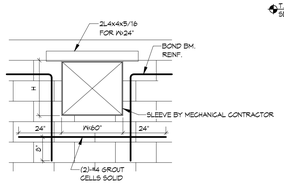
STAIR STRINGER BRACING



DUCT OR PIPE SLEEVE ABOVE BOND BM. REINF.



DUCT OPENIING BELOW BOND BEAM, W< 30"



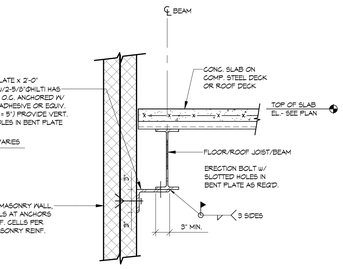
DUCT OPENING THRU BOND BEAM, W< 60"

PIPE & DUCT PENETRATIONS THRU MASONRY WALLS

NOTE:
1. PROVIDE 12" OF MASONRY BETWEEN ADJACENT DUCT PENETRATIONS.
2. MECHANICAL OPENINGS IN MASONRY WALLS LARGER THAN 60" NOT SHOWN ON THE STRUCTURAL DRAWINGS, SHALL NOT BE PLACED WITHOUT WRITTEN PERMISSION/FRAMING RECOMMENDATIONS FROM THE STRUCTURAL ENGINEER NOT SHOWN ON THE STRUCTURAL DRAWINGS.

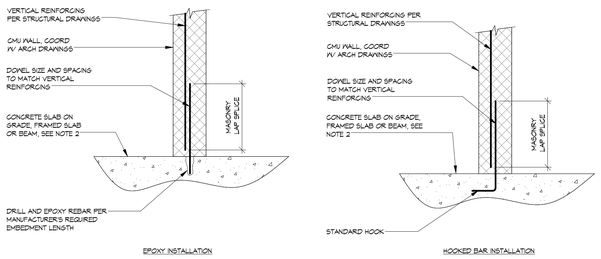
DETAIL 7/S402 3/4" = 1'-0"

TYPICAL BEAM BEARING ON MASONRY WALL



DETAIL 9/S402 3/4" = 1'-0"

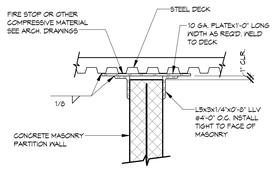
TYPICAL STEEL JOIST/BEAM PARALLEL TO MASONRY WALL DETAIL



NOTE:
1. INSTALLATION METHODS SHOWN ARE BOTH ACCEPTABLE AND SHALL BE AT CONTRACTOR'S OPTION. SUBMIT SHOP DRAWINGS TO CLEARLY INDICATE WHICH METHOD IS BEING INSTALLED.
2. FOR EPOXY INSTALLATION, BASE MATERIAL DEPTH SHALL BE A MINIMUM OF 1.5x REQUIRED EMBED DEPTH, OR AS REQUIRED BY THE MANUFACTURER, WHEN BASE MATERIAL DEPTH DOES NOT MEET THIS CRITERIA, CONTRACTOR MUST INSTALL PER HOOKED BAR INSTALLATION.

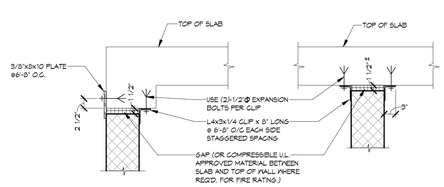
DETAIL 8/S402 3/4" = 1'-0"

TYPICAL CMU WALL DOWELS



DETAIL 13/S402 3/4" = 1'-0"

TYPICAL MASONRY PARTITION BRACING AT FLOOR DECK DETAIL



DETAIL 10/S402 3/4" = 1'-0"

PARTITION WALL BRACING TO SLAB

PROJECT NORTH
TRUE NORTH= 83.00°

FULLY SPRINKLERED
BID DOCUMENTS

#	Revision	Date

CONSULTANTS:

HOPE FURRER Associates, Inc.
SITE RESOURCES Comprehensive Land Planning & Site Design Services
leeandassociatesinc

SEAL

STATE OF MARYLAND — Taylor Hughes Farmer — No. 30978 — PROFESSIONAL ENGINEER

ARCHITECTS/ENGINEERS:

AE WORKS

6587 Hamilton Avenue
Pittsburgh, Pennsylvania 15206
Ph: 412.287.7333 Fax: 412.287.7334
www.ae-works.com

AE Works Project Number:

Drawing Title
TYPICAL MASONRY DETAILS

Approved: Project Director

Project Title:
Construct a New Residential Rehabilitation Treatment Program (RRTP) Building

Location: Perry Point VA Medical Center, Perry Point, MD 21902

Date: 6-11-15 | **Checked:** MAH | **Drawn:** MTH

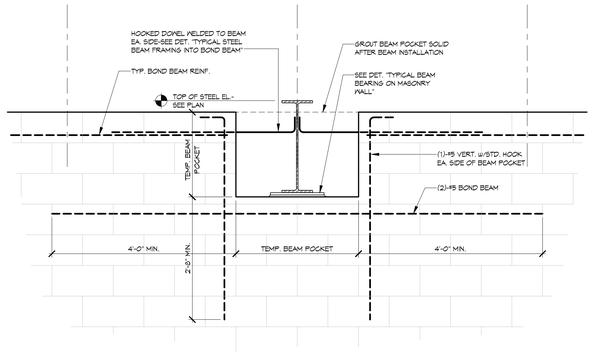
Project Number 512-531

Building Number

Drawing Number S402

Office of Construction and Facilities Management
Department of Veterans Affairs

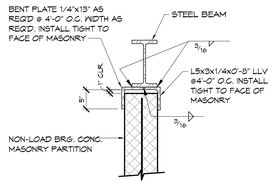
VA FORM 08-6231



NOTES:
1. ALL BOND BEAMS AND CELLS WITH REINFORCING SHALL BE GROUTED SOLID.
2. DECK/FLOOR ABOVE NOT SHOWN FOR CLARITY.
3. ALL BARS SHALL BE LAPPED USING A MASONRY LAP SPLICE.

DETAIL 1/S403 — 3/4" = 1'-0"

BEAM POCKET REINFORCEMENT



DETAIL 2/S403 — 3/4" = 1'-0"

TYPICAL MASONRY PARTITION BRACING AT STEEL BEAM DETAIL

NON LOAD-BEARING WALL MASONRY REINFORCING REINFORCING SCHEDULE

HEIGHT	THICKNESS	REINFORCING			REMARKS
		INTERIOR	EXTERIOR		
			ZONE 4 (TYP WALL)	ZONE 5 (CORNERS)	
< 9 ft.	6"	#4 @ 48"	NOT PERMITTED	NOT PERMITTED	
	8"	NONE REQ'D	#4 @ 48"	#4 @ 48"	
	12"	NONE REQ'D	#4 @ 48"	#4 @ 48"	
9 ft. TO 12 ft.	6"	#4 @ 48"	NOT PERMITTED	NOT PERMITTED	
	8"	#4 @ 48"	#4 @ 48"	#4 @ 32"	
	12"	#4 @ 48"	#4 @ 48"	#4 @ 48"	
12 ft. TO 16 ft.	6"	#4 @ 24"	NOT PERMITTED	NOT PERMITTED	
	8"	#5 @ 48"	#5 @ 32"	#5 @ 24"	
	12"	#4 @ 48"	#4 @ 48"	#4 @ 32"	
16 ft. TO 20 ft.	8"	#4 @ 24"	NOT PERMITTED	NOT PERMITTED	
	12"	#5 @ 48"	#5 @ 48"	#5 @ 32"	
20 ft. TO 24 ft.	8"	#5 @ 24"	NOT PERMITTED	NOT PERMITTED	
	12"	#4 @ 24"	#5 @ 24"	#5 @ 16"	

NOTES:
1. PROVIDE REINF. IN ALL MASONRY WALLS PER ABOVE SCHEDULE, UNLESS NOTED OTHERWISE IN PLAN OR SECTION. REINFORCING NOTED ON PLANS IS IN ADDITION TO MASONRY REINFORCING PER THE SCHEDULE UNLESS SPECIFICALLY NOTED OTHERWISE.
2. PROVIDE DOWELS TO FOOTING/PDTN. WALL OF SAME SIZE AND SPACING AS VERT. REINF. REFER TO "MASONRY LAP SPLICE LENGTH" SCHEDULE FOR LAP SPLICES.
3. REFER TO TYPICAL DETAILS FOR ADDITIONAL REINFORCING REQUIREMENTS, I.E. JAMB REINFORCING ADJACENT TO OPENINGS IN WALLS, ADDITIONAL CORNER REINFORCING, ETC.
4. GROUT CELLS WITH REINFORCING SOLID.
5. PROVIDE LAPS IN VERTICAL REINFORCING AS REQ'D. REFER TO "MASONRY LAP SPLICE LENGTH" SCHEDULE FOR REQ'D. SPLICE LENGTH.
6. ALL REINFORCING INDICATED IS TO BE CENTERED IN MASONRY WALL UNLESS NOTED OTHERWISE.
7. HEIGHT OF MASONRY IN TABLE REFERS TO THE VERTICAL CENTER TO CENTER DIMENSION BETWEEN LATERAL SUPPORTS FOR THE MASONRY. REFER TO THE PLANS & SECTIONS FOR ADDITIONAL INFORMATION.
8. ZONE 4 AND ZONE 5 NOTED IN SCHEDULE REFER TO INTERIOR ZONE AND END ZONES OF WALLS RESPECTIVELY AS DEFINED BY THE BUILDING CODE. SEE GENERAL NOTES FOR END ZONES DIMENSIONS. (ZONE 5) EXTENDS 15 FEET MINIMUM FROM BUILDING CORNERS, TYP.

MASONRY LAP SPLICE LENGTH (in.)
Fy = 60,000 psi

IBC 2107

f'm' = 1,500 PSI

BAR SIZE	NOMINAL CMU SIZE							
	6"		8"		10"		12"	
	GEN.	I.F.	GEN.	I.F.	GEN.	I.F.	GEN.	I.F.
3	16	19	16	19	16	19	16	19
4	21	34	21	34	21	34	21	34
5	32	53	26	53	16	53	26	53
6	M.S.	M.S.	43	M.S.	40	M.S.	40	M.S.
7	N/A	N/A	M.S.	M.S.	M.S.	M.S.	M.S.	M.S.
8	N/A	N/A	M.S.	M.S.	M.S.	M.S.	M.S.	M.S.
9	N/A	N/A	N/A	N/A	M.S.	M.S.	M.S.	M.S.

NOTES:
GEN. = BARS CENTERED IN THE WALL.
I.F. = BARS ON INSIDE OR OUTSIDE FACE OF WALL.
M.S. = MECHANICAL SPLICE.
1. MECHANICAL SPLICES MAY BE SUBSTITUTED FOR THE ABOVE, PROVIDED BARS ARE CONNECTED TO DEVELOP TENSION OR COMPRESSION, AS REQUIRED, AT LEAST 125% OF THE SPECIFIED YIELD STRENGTH.
2. MASONRY LAP SPLICE LENGTHS INDICATED IN THE SCHEDULE ARE BASED ON THE FOLLOWING:
   A. 2012 INTERNATIONAL BUILDING CODE.
   B. ACI 530 "BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES".
   C. ASTM C-90 CONCRETE MASONRY DIMENSIONS, MINIMUM FACE SHELL, AND MINIMUM WEB THICKNESS.
   D. MAXIMUM OF ONE BAR PER CELL, AND CELLS GROUTED AT REINFORCEMENT LOCATIONS ONLY.
3. COMPLY WITH ACI 530 "BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES" FOR REINFORCING PLACEMENT, COVER, AND GROUTING REQUIREMENTS.
4. LAP LENGTH SHALL BE BASED ON THE LARGER BAR DIAMETER BEING LAPPED.

PROJECT NORTH
TRUE NORTH= 83.00°

FULLY SPRINKLERED
BID DOCUMENTS

#	Revision	Date

CONSULTANTS:

HOPE FURRER Associates, Inc.
SITE RESOURCES Comprehensive Land Planning & Site Design Services
leeandassociatesinc

SEAL

STATE OF MARYLAND — Myles Hughes Farrar — No. 10976 — PROFESSIONAL ENGINEER

ARCHITECTS/ENGINEERS:

AE WORKS

6587 Hamilton Avenue
Pittsburgh, Pennsylvania 15206
Ph: 412.287.7333 Fax: 412.287.7334
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AE Works Project Number:

Drawing Title
TYPICAL MASONRY DETAILS & SCHEDULES

Approved: Project Director

Project Title:
Construct a New Residential Rehabilitation Treatment Program (RRTP) Building

Location: Perry Point VA Medical Center, Perry Point, MD 21902

Date: 6-11-15 | **Checked:** MAH | **Drawn:** MTH

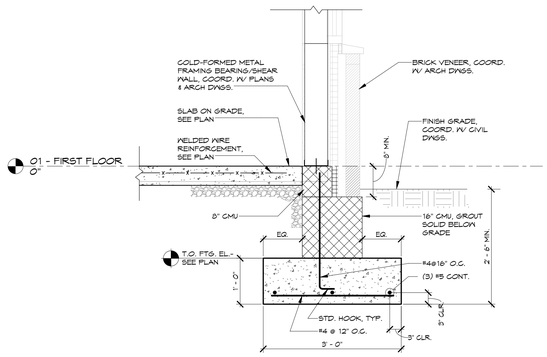
Project Number 512-531

Building Number

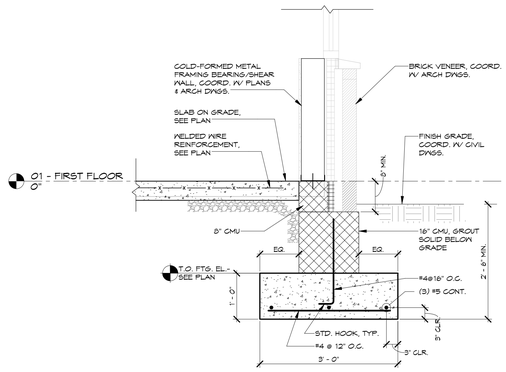
Drawing Number S403

Office of Construction and Facilities Management
Department of Veterans Affairs

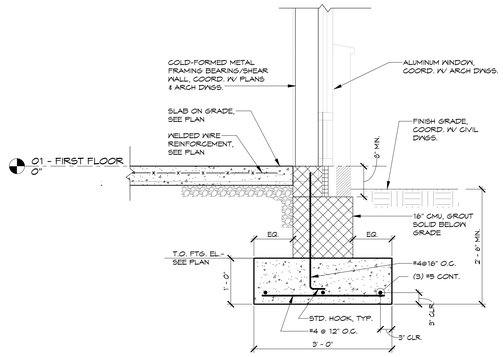
VA FORM 08-6231



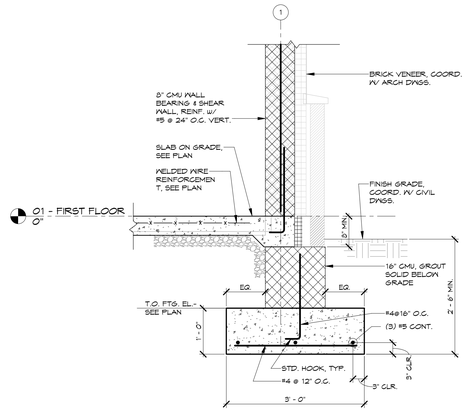
SECTION 1 / S404 3/4" = 1'-0"



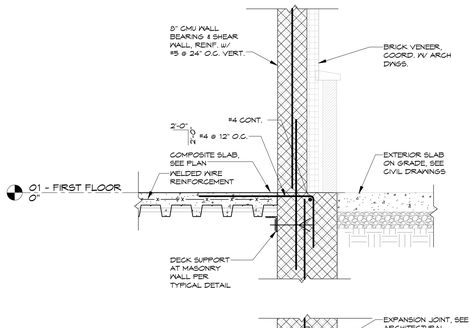
SECTION 2 / S404 3/4" = 1'-0"

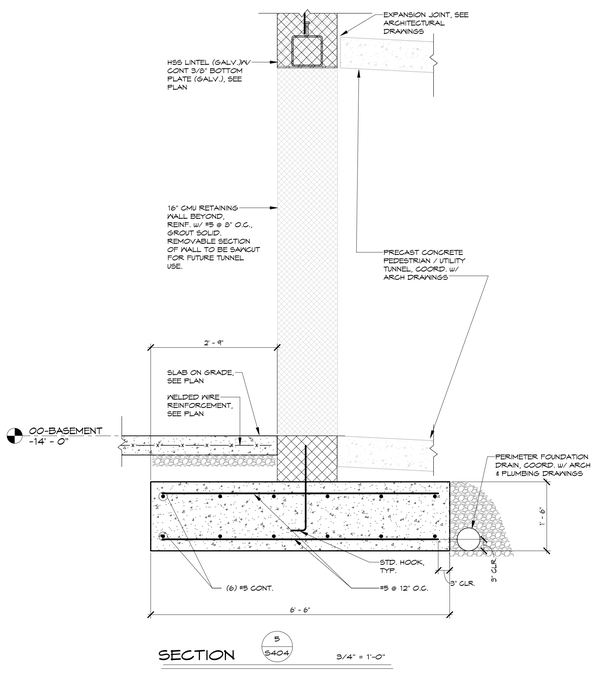


SECTION 3 / S404 3/4" = 1'-0"

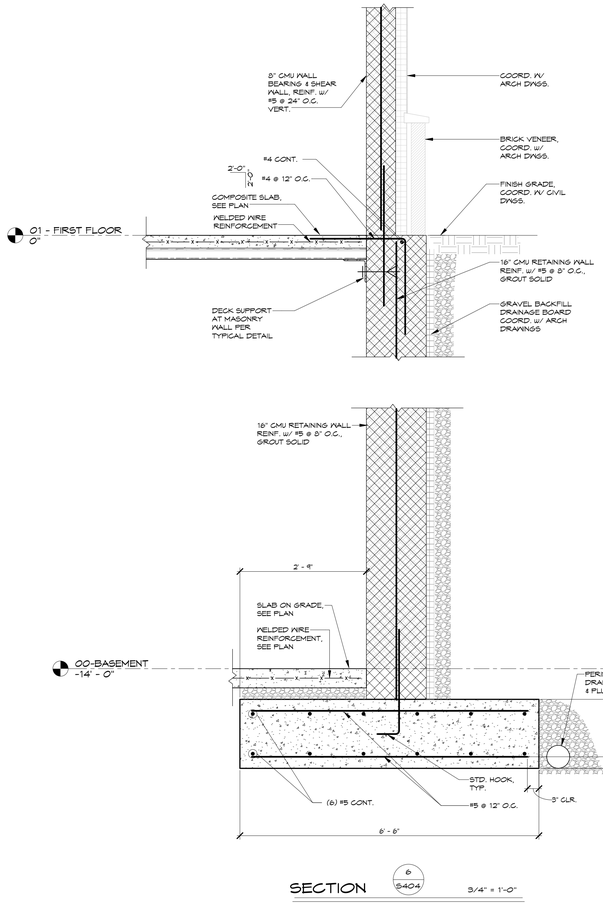


SECTION 4 / S404 3/4" = 1'-0"

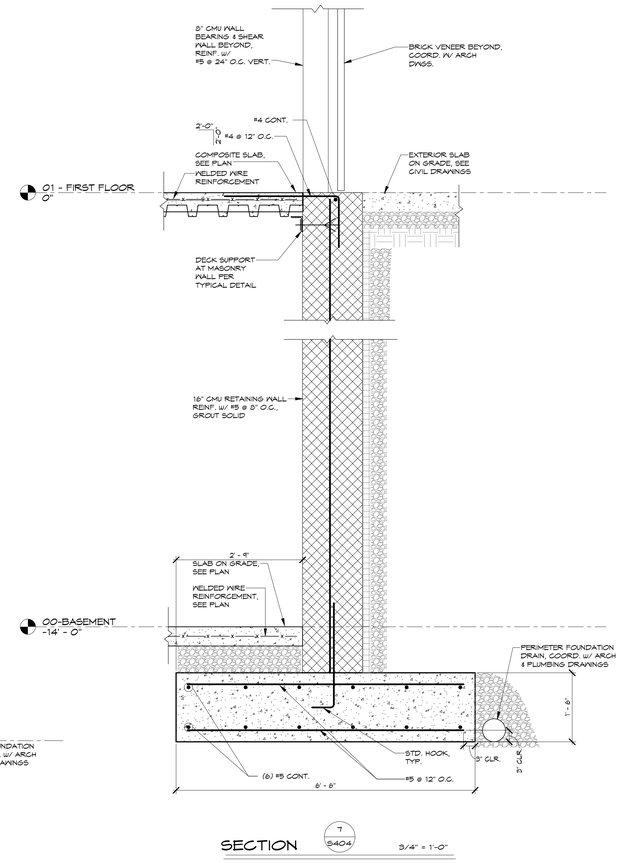




SECTION 5 / S404 3/4" = 1'-0"



SECTION 6 / S404 3/4" = 1'-0"



SECTION 7 / S404 3/4" = 1'-0"

IN ACCORDANCE WITH THE GEOTECHNICAL REPORT RECOMMENDATIONS, AN UNDERSLAB AND PERIMETER DRAIN SYSTEM SHALL BE INSTALLED TO PROTECT THE COMPLETED FLOOR SLAB AGAINST HYDROSTATIC UPLIFT FROM GROUND WATER. COORDINATE WITH ARCHITECTURAL, CIVIL, MECHANICAL AND PLUMBING DRAWINGS FOR WATER REMOVAL SYSTEM AND WATERPROOFING. THE UNDERDRAIN SYSTEM SHALL BE ON THE EMERGENCY GENERATOR. THE STRUCTURE IS NOT DESIGNED TO RESIST ANY HYDROSTATIC PRESSURES. SEE ARCHITECTURAL DRAWINGS FOR LOCATIONS OF WATERSTOPS.

PROJECT NORTH
TRUE NORTH= 83.00°

FULLY SPRINKLERED BID DOCUMENTS

#	Revision	Date

CONSULTANTS:

HOPE FURRER Associates, Inc. — SITE RESOURCES — leeandassociatesinc

SEAL

STATE OF MARYLAND — Blake Hughes Farrer — No. 30976 — PROFESSIONAL ENGINEER

ARCHITECTS/ENGINEERS:

AE WORKS

6587 Hamilton Avenue
Pittsburgh, Pennsylvania 15206
Ph: 412.287.7333 Fax: 412.287.7334
www.ae-works.com

AE Works Project Number:

Drawing Title
FOUNDATION SECTIONS

Approved: Project Director

Project Title:
Construct a New Residential Rehabilitation Treatment Program (RRTP) Building

Location: Perry Point VA Medical Center
Perry Point, MD 21902

Date: 6-11-15 | **Checked:** MAH | **Drawn:** MTH

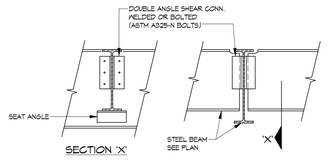
Project Number
512-531

Building Number

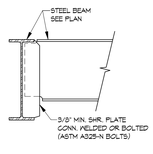
Drawing Number
S404

Office of Construction and Facilities Management
Department of Veterans Affairs

VA FORM 08-6231



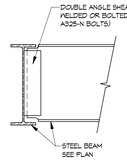
TYPICAL



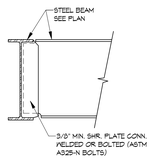
ALTERNATE
(LIMITED ACCESS)

DETAIL 1/S500 3/4" = 1'-0"

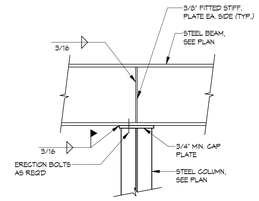
BEAM TO BEAM SHEAR CONNECTIONS



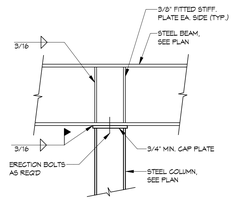
TYPICAL



ALTERNATE
(LIMITED ACCESS)



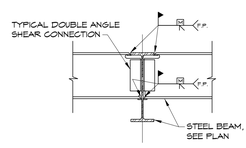
WEBS PERPENDICULAR
(PIPE & TUBE SIMLAR)



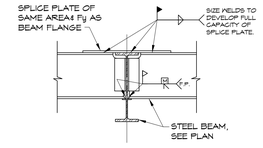
WEBS PARALLEL

DETAIL 2/S500 3/4" = 1'-0"

TYPICAL BEAM CANTILEVER ACROSS A STEEL COLUMN



TYPICAL

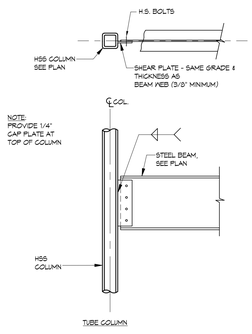


ALTERNATE

NOTES:
1. FOR CANTILEVER BEAMS MARKED THUS ◄ IN PLAN.
2. F.P. = FULL PENETRATION GROOVE WELD.

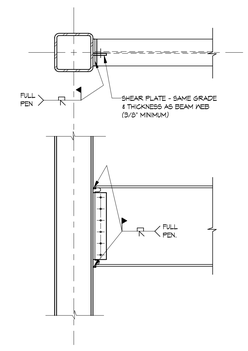
DETAIL 3/S500 3/4" = 1'-0"

TYPICAL CANTILEVER BEAM AT GIRDER



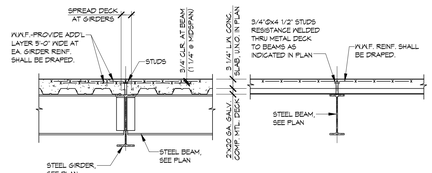
DETAIL 4/S500 3/4" = 1'-0"

BEAM TO COLUMN SHEAR CONNECTION



DETAIL 5/S500 3/4" = 1'-0"

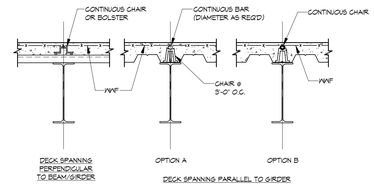
TYPICAL MOMENT CONNECTION TO TUBE COLUMN



NOTES:
1. CONTRACTOR SHALL SUPPORT WIRE MESH ON CHAIRS OVER FILLER BEAMS AND GIRDERS. SEE 'TYPICAL WELDED WIRE FABRIC SUPPORT DETAILS.'

DETAIL 6/S500 3/4" = 1'-0"

TYPICAL COMPOSITE FLOOR CONSTRUCTION

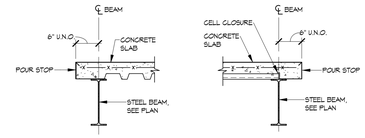


DECK SPANNING PARALLEL TO GIRDER

NOTES:
1. WELDED WIRE FABRIC (W.W.F.) SHALL BE ACCURATELY PLACED AND ADEQUATELY SUPPORTED BEFORE THE CONCRETE IS PLACED, AND SHALL BE SECURED AGAINST DISPLACEMENT WITHIN PERMITTED TOLERANCES.
2. PROVIDE CONTINUOUS SUPPORTS FOR W.W.F. AT BEAMS AND GIRDERS USING ONE OF THE METHODS SHOWN ABOVE.
3. MESH SHALL BE DRAPED.

DETAIL 7/S500 3/4" = 1'-0"

TYPICAL WELDED WIRE FABRIC SUPPORT DETAILS



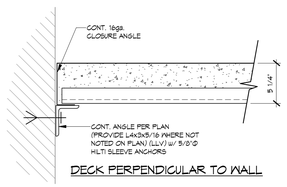
DECK PARALLEL TO BEAM

DECK PERPENDICULAR TO BEAM

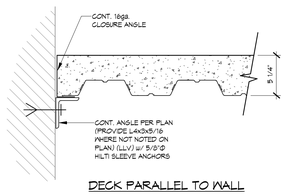
NOTE:
USE MINIMUM OF STEEL DECK INSTITUTE POUR STOP SELECTION TABLE FOR GAGE OF POUR STOP, OR AS NOTED.

DETAIL 8/S500 3/4" = 1'-0"

TYPICAL SLAB EDGE DETAILS AT FLOOR OPENINGS



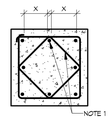
DECK PERPENDICULAR TO WALL



DECK PARALLEL TO WALL

DETAIL 9/S500 3/4" = 1'-0"

DECK SUPPORT AT MASONRY WALLS



8 BAR COLUMN
3-TIES PER SET

NOTES:
1. THESE BARS MUST BE TIED AS SHOWN BY DASHED LINES WHEN X DISTANCE IS OVER 6".
2. THESE BARS NEED NOT BE TIED WHEN X DISTANCE EQUALS 6" OR LESS.
3. 1 1/2" MIN. COVER TO TIES (TYPICAL)
4. FOR SIZE OF VERTICAL BARS, SEE COLUMN SCHEDULE.
5. FOR SIZE AND SPACING OF TIES, SEE TIE SPACING SCHEDULE.
6. ALTERNATE LOCATIONS OF TIE HOOKS WHEN PLACING SUCCESSIVE SETS OF TIES.
7. USE MECHANICAL SPLICE FOR SPLICING #14 BARS ONLY.

DETAIL 10/S500 3/4" = 1'-0"

CONCRETE PIER REINFORCING

PROJECT NORTH
TRUE NORTH= 83.00°

FULLY SPRINKLERED BID DOCUMENTS

#	Revision	Date

CONSULTANTS:

HOPE FURRER Associates, Inc. | SITE RESOURCES | leeandassociatesinc

SEAL

STATE OF MARYLAND — Myles Hughes Furrer — No. 10976 — PROFESSIONAL ENGINEER

ARCHITECTS/ENGINEERS:

AE WORKS

6587 Hamilton Avenue
Pittsburgh, Pennsylvania 15206
Ph: 412.287.7333 Fax: 412.287.7334
www.ae-works.com

AE Works Project Number:

Drawing Title: TYPICAL SUPERSTRUCTURE DETAILS

Approved: Project Director

Project Title: Construct a New Residential Rehabilitation Treatment Program (RRTP) Building

Location: Perry Point VA Medical Center, Perry Point, MD 21902

Date: 6-11-15 | **Checked:** MAH | **Drawn:** MTH

Project Number: 512-531

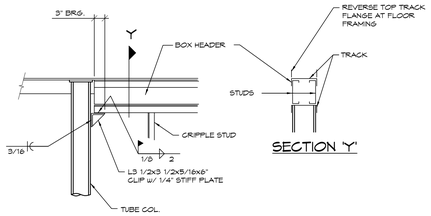
Building Number:

Drawing Number: S500

Office of Construction and Facilities Management

Department of Veterans Affairs

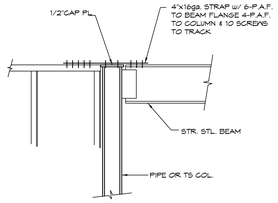
VA FORM 08-6231



SECTION 'Y'

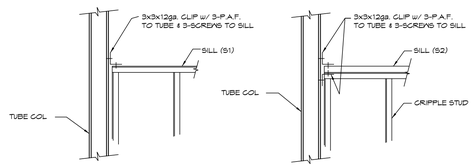
DETAIL 1/S501 3/4" = 1'-0"

TYPICAL HEADER BEAM CONNECTION TO COLUMN



DETAIL 2/S501 3/4" = 1'-0"

TOP OF COLUMN

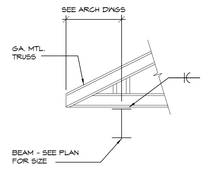


SILL 'S1'/HEAD 'H1'

SILL 'S2'/HEAD 'H2'

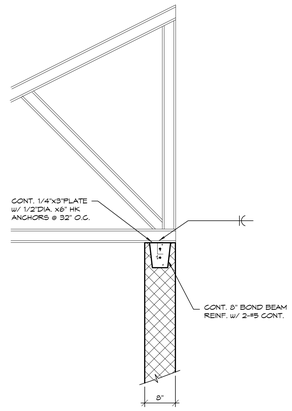
DETAIL 3/S501 3/4" = 1'-0"

TYPICAL SILL/HEAD CONNECTION TO COLUMN



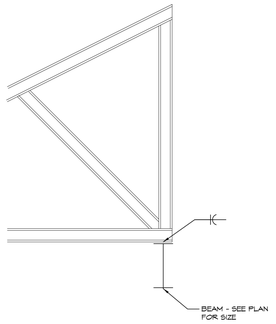
DETAIL 4/S501 3/4" = 1'-0"

EAVE BEARING ON STEEL BEAM



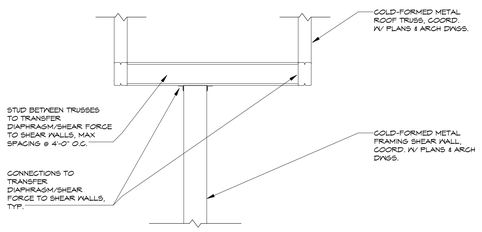
DETAIL 5/S501 3/4" = 1'-0"

TRUSS BEARING ON INTERIOR CMU WALL



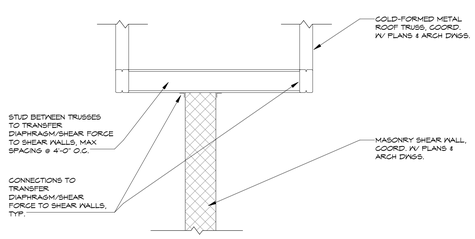
DETAIL 6/S501 3/4" = 1'-0"

TRUSS BEARING ON INTERIOR STEEL BEAM



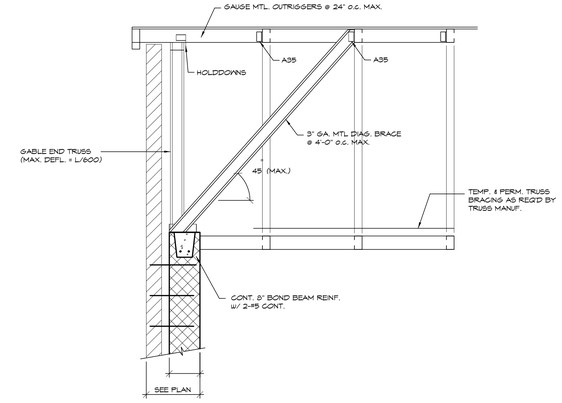
DETAIL 7/S501 3/4" = 1'-0"

TRUSSES PARALLEL TO SHEAR WALLS



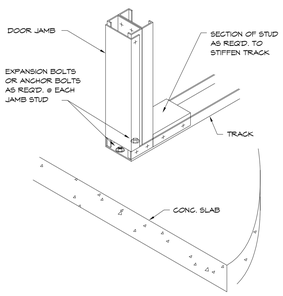
DETAIL 8/S501 3/4" = 1'-0"

TRUSSES PARALLEL TO CMU SHEAR WALLS



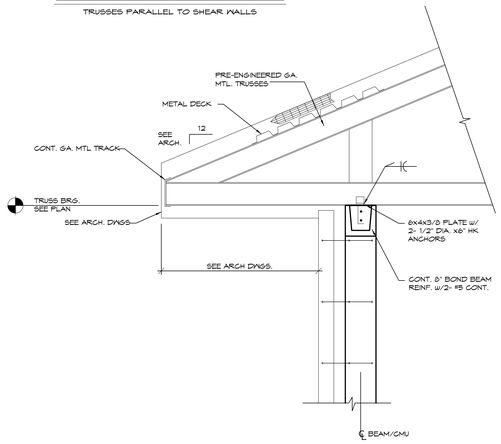
DETAIL 9/S501 3/4" = 1'-0"

METAL GABLE ON CMU WALL



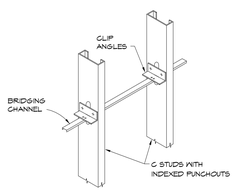
DETAIL 10/S501 1 1/2" = 1'-0"

TYPICAL DOOR JAMB AT SLAB

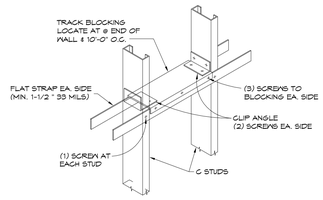


DETAIL 11/S501 3/4" = 1'-0"

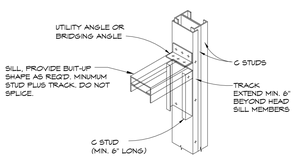
TRUSS BEARING ON CMU WALL



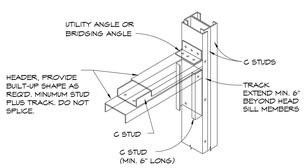
TYPICAL BRIDGING DETAIL



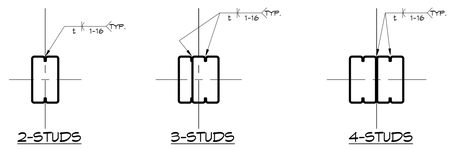
FLAT STRAP & BLOCKING

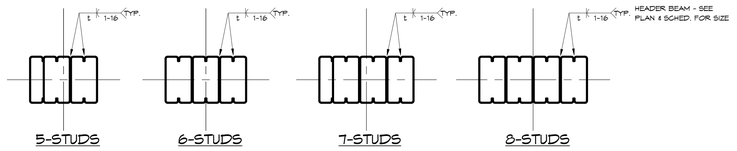


SILL DETAIL



HEAD DETAIL





CONTR. OPTION:
SCREWED CONNECTIONS OF EQUAL CAPACITY MAY BE SUBSTITUTED FOR WELDED CONNECTIONS.

DETAIL 13/S501 1 1/2" = 1'-0"

TYPICAL BUILT-UP JAMB/POST DETAILS

THE ENGINEERING OF ALL COLD METAL FRAMING, INCLUDING CONNECTIONS, IS THE RESPONSIBILITY OF THE CONTRACTOR. SEE GENERAL NOTES ON DRAWING S001 AND ARCHITECTURAL SPECIFICATIONS FOR ADDITIONAL INFORMATION.

DETAIL 12/S501 3/4" = 1'-0"

TYPICAL COLD FORMED METAL FRAMING DETAILS

PROJECT NORTH
TRUE NORTH= 83.00°

FULLY SPRINKLERED BID DOCUMENTS

#	Revision	Date

CONSULTANTS:

HOPE FURRER Associates, Inc. | SITE RESOURCES | leeandassociatesinc

SEAL

STATE OF MARYLAND — Mark Hughes Furrer — No. 10976 — PROFESSIONAL ENGINEER

ARCHITECTS/ENGINEERS:

AE WORKS

6587 Hamilton Avenue
Pittsburgh, Pennsylvania 15206
Ph: 412.287.7333 Fax: 412.287.7334
www.ae-works.com

AE Works Project Number:

Drawing Title: TYPICAL SUPERSTRUCTURE DETAILS

Approved: Project Director

Project Title: Construct a New Residential Rehabilitation Treatment Program (RRTP) Building

Location: Perry Point VA Medical Center, Perry Point, MD 21902

Date: 6-11-15 | **Checked:** MAH | **Drawn:** MTH

Project Number: 512-531

Building Number:

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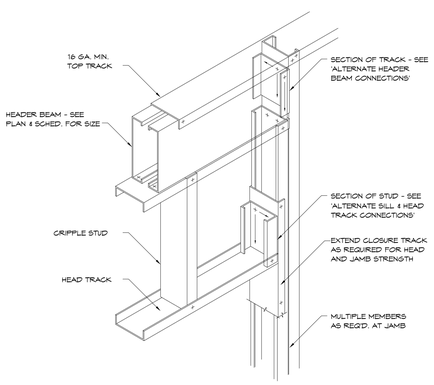
Office of Construction and Facilities Management

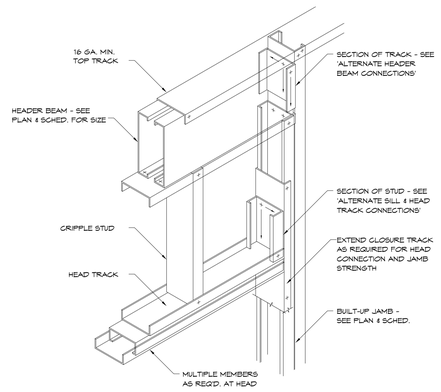
Department of Veterans Affairs

VA FORM 08-6231



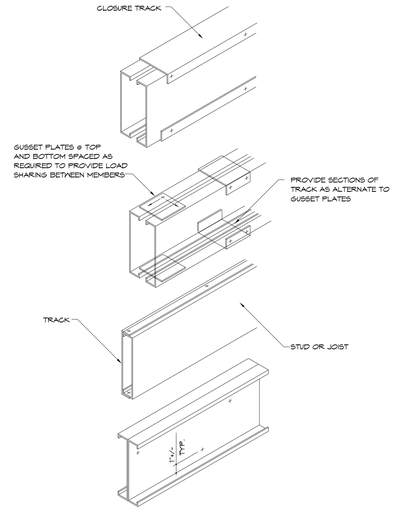
DETAIL 1/5502 1 1/2" = 1'-0"

BEARING WALL JAMB & HEADER
(OPENING WIDTH < 4'-0")



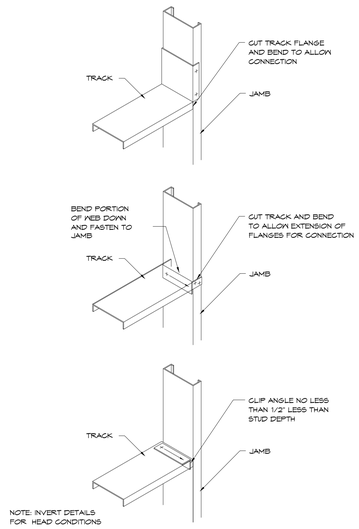
DETAIL 2/5502 1 1/2" = 1'-0"

BEARING WALL JAMB & HEADER
(OPENING WIDTH >= 4'-0")



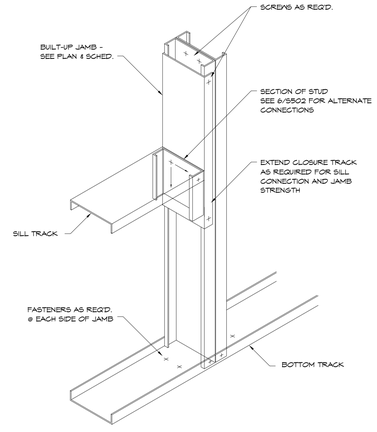
DETAIL 3/5502 1 1/2" = 1'-0"

BUILT-UP HEADER CONFIGURATIONS



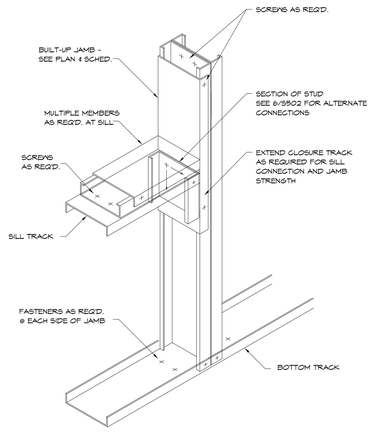
DETAIL 4/5502 1 1/2" = 1'-0"

ALTERNATE SILL & HEAD TRACK CONNECTIONS



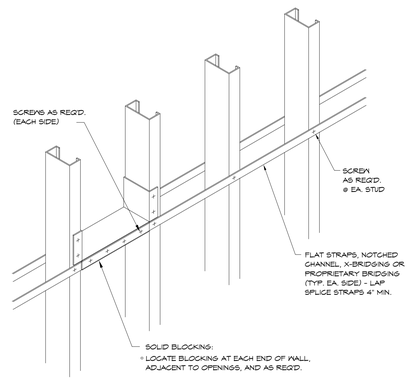
DETAIL 5/5502 1 1/2" = 1'-0"

TYPICAL JAMB & SILL
(OPENING WIDTH < 4'-0")



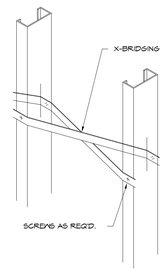
DETAIL 6/5502 1 1/2" = 1'-0"

TYPICAL JAMB & SILL
(OPENING WIDTH >= 4'-0")



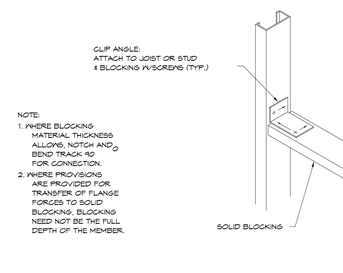
DETAIL 7/5502 1 1/2" = 1'-0"

TYPICAL WALL BRIDGING



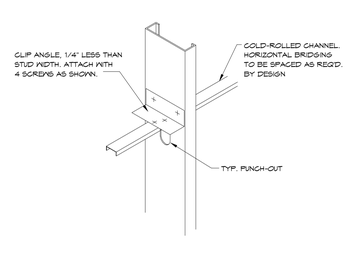
DETAIL 8/5502 1 1/2" = 1'-0"

TYPICAL X-BRIDGING



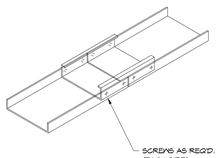
DETAIL 9/5502 1 1/2" = 1'-0"

TYPICAL SOLID BLOCKING



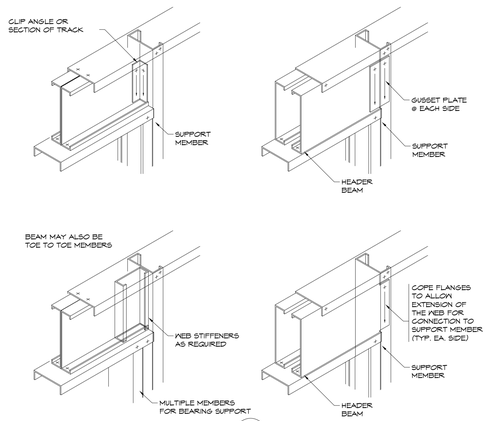
DETAIL 10/5502 1 1/2" = 1'-0"

WALL BRIDGING
(ALTERNATE)



DETAIL 11/5502 1 1/2" = 1'-0"

TOP & BOTTOM TRACK SPLICE
(ALTERNATE)



DETAIL 12/5502 1 1/2" = 1'-0"

HEADER BEAM CONNECTIONS
(ALTERNATE)

PROJECT NORTH
TRUE NORTH= 83.00°

FULLY SPRINKLERED BID DOCUMENTS

#	Revision	Date

CONSULTANTS:

HOPE FURRER Associates, Inc.
SITE RESOURCES
leeandassociatesinc

SEAL

STATE OF MARYLAND
Hope Hughes Furrer
No. 10976
PROFESSIONAL ENGINEER

ARCHITECTS/ENGINEERS:

AE WORKS

6587 Hamilton Avenue
Pittsburgh, Pennsylvania 15206
Ph: 412.287.7333 Fax: 412.287.7334
www.ae-works.com

AE Works Project Number:

Drawing Title
TYPICAL SUPERSTRUCTURE DETAILS

Approved: Project Director

Project Title:
Construct a New Residential Rehabilitation Treatment Program (RRTP) Building

Location: Perry Point VA Medical Center
Perry Point, MD 21902

Date: 6-11-15
Checked: MAH
Drawn: MTH

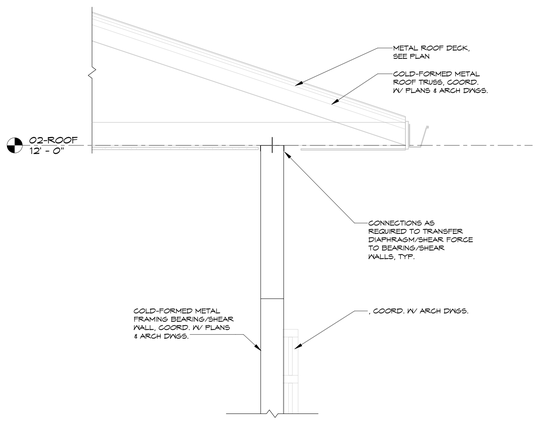
Project Number
512-531

Building Number

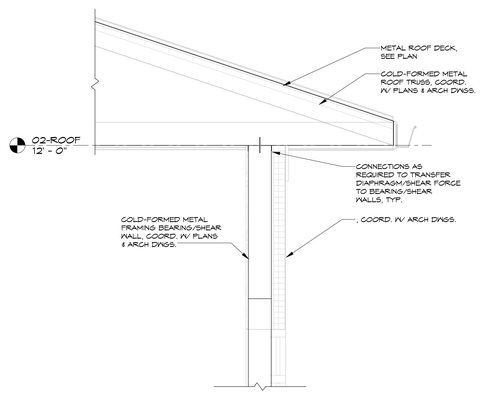
Drawing Number
S502

Office of Construction and Facilities Management
Department of Veterans Affairs

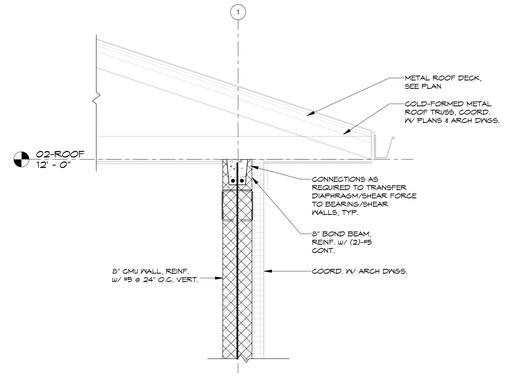
VA FORM 08-6231



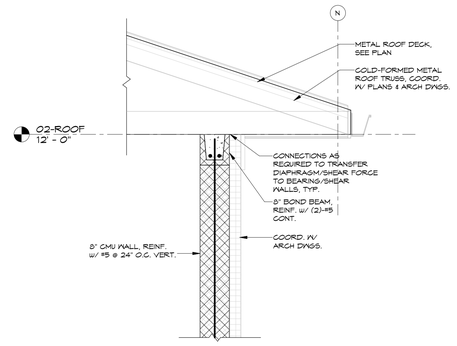
SECTION 1 / S503 3/4" = 1'-0"



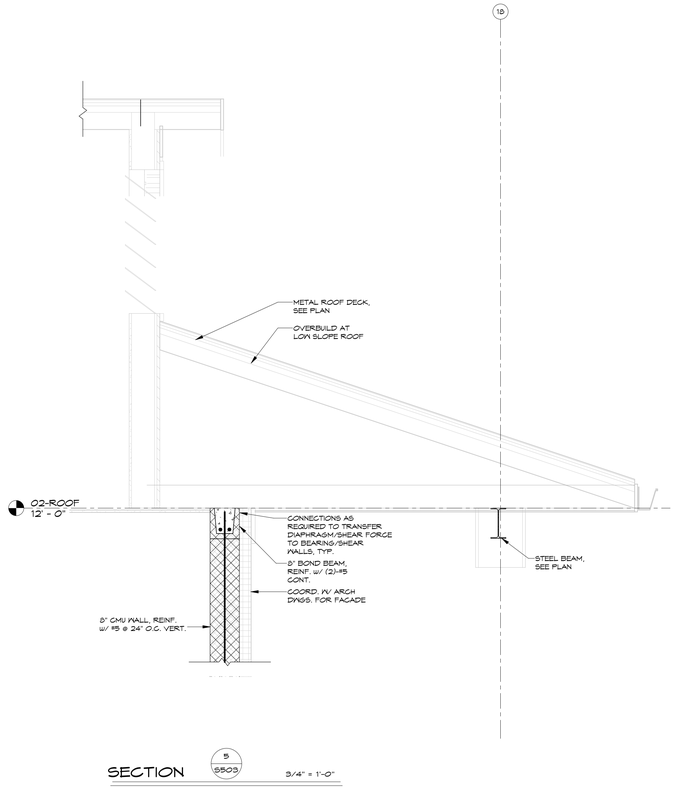
SECTION 2 / S503 3/4" = 1'-0"



SECTION 3 / S503 3/4" = 1'-0"



SECTION 4 / S503 3/4" = 1'-0"



SECTION 5 / S503 3/4" = 1'-0"

PROJECT NORTH
TRUE NORTH= 83.00°

FULLY SPRINKLERED BID DOCUMENTS

#	Revision	Date

CONSULTANTS:

HOPE FURRER Associates, Inc.
SITE RESOURCES
leeandassociatesinc

SEAL

STATE OF MARYLAND — Hope Hughes Furrer — No. 10976 — PROFESSIONAL ENGINEER

ARCHITECTS/ENGINEERS:

AE WORKS

6587 Hamilton Avenue
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www.ae-works.com

AE Works Project Number:

Drawing Title
SUPERSTRUCTURE SECTIONS

Approved: Project Director

Project Title:
Construct a New Residential Rehabilitation Treatment Program (RRTP) Building

Location: Perry Point VA Medical Center
Perry Point, MD 21902

Date: 6-11-15 | **Checked:** MAH | **Drawn:** MTH

Project Number 512-531

Building Number

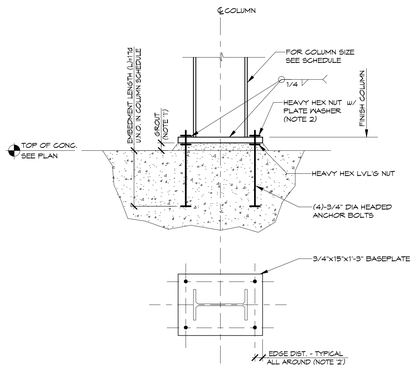
Drawing Number S503

Office of Construction and Facilities Management
Department of Veterans Affairs

VA FORM 08-6231

	A-6	A-8	A-10	A-12	A-14	A.3-4	A.3-5	B-4	B-5	B-6	B-8	B-10	B-12	B-14	C-4	C-7	C-15	D-4	D-7	E-18	F-15	F-16	F-17	G-3	G-4	
02-ROOF																										02-ROOF
12' - 0" 01 - FIRST FLOOR	P-pe55TD	P-pe55TD	P-pe55TD	P-pe55TD	P-pe55TD	P-pe55TD	P-pe55TD	P-pe55TD	P-pe55TD	P-pe55TD	P-pe55TD	P-pe55TD	P-pe55TD	P-pe55TD	P-pe55TD	P-pe55TD	P-pe55TD	P-pe55TD	P-pe55TD	P-pe55TD	P-pe55TD	P-pe55TD	P-pe55TD	P-pe55TD	P-pe55TD	P-pe55TD	12' - 0" 01 - FIRST FLOOR
0" 00-BASEMENT																										0" 00-BASEMENT
-14' - 0"																										-14' - 0"
Column Locations																										

	H-7	J-18	K-1	L-2	L-7	M-1	M-2	M-4	M-7	M-16	N-14	P-7	Q-7	Q-9	Q-11	Q-13	Q-14	
02-ROOF																		02-ROOF
12' - 0" 01 - FIRST FLOOR	P-pe55TD	P-pe55TD	P-pe55TD	P-pe55TD	P-pe55TD	P-pe55TD	P-pe55TD	P-pe55TD	P-pe55TD	P-pe55TD	P-pe55TD	P-pe55TD	P-pe55TD	P-pe55TD	P-pe55TD	P-pe55TD	P-pe55TD	12' - 0" 01 - FIRST FLOOR
0" 00-BASEMENT																		0" 00-BASEMENT
-14' - 0"																		-14' - 0"
Column Locations																		



NOTES:
1. PROVIDE 2" GROUT TYPICAL. FOR BASEPLATES LESS THAN 24" SQUARE 3/4" GROUT AND 1/4" STEEL LEVELING PLATE MAY BE SUBSTITUTED. COORDINATE COLUMN CUTOFF LENGTHS AS REQUIRED.
2. REFER TO BASEPLATE DETAILING SCHEDULE FOR THE BASEPLATE HOLE DIAMETERS, PLATE WASHER DIMENSIONS AND ANCHOR BOLT EDGE DISTANCE.
3. FOR BASE PLATES 18" OR GREATER IN EITHER DIRECTION, PROVIDE A 2" DIAMETER GROUT HOLE.
4. 'd' IS THE ANCHOR BOLT DIAMETER AS DEFINED IN THE COLUMN SCHEDULE.
5. UNHEADED ANCHOR BOLTS WITH DOUBLE HEAVY HEX NUTS MAY BE SUBSTITUTED FOR HEADED ANCHOR BOLTS.
6. THE LAST DIMENSION OF THE COLUMN BASEPLATE SIZE, NOTED IN THE COLUMN SCHEDULE, IS PARALLEL TO THE COLUMN WEB.
7. WIDE FLANGE COLUMN SHOWN, TUBE COLUMN SIMILAR.

DETAIL 1/S600 — 3/4" = 1'-0"

TYPICAL 4 BOLT COLUMN BASE DETAIL

BASEPLATE DETAILING SCHEDULE

ANCHOR ROD DIAMETER (d)	BASEPLATE HOLE DIAMETER	PLATE WASHER DIAMETER	PLATE WASHER THICKNESS (U.N.O.)	ANCHOR ROD EDGE DISTANCE (U.N.O.)
3/4"	1 5/16"	2"	1/4"	1 1/2"

NOTES:
1. SEE COLUMN BASE DETAL FOR ANCHOR BOLT DIAMETER.
2. PLATE WASHERS SHALL HAVE STANDARD HOLES.

PROJECT NORTH
TRUE NORTH= 83.00°

FULLY SPRINKLERED BID DOCUMENTS

#	Revision	Date

CONSULTANTS:

HOPE FURRER Associates, Inc. — SITE RESOURCES — leeandassociatesinc

SEAL

STATE OF MARYLAND — Wade Hughes Furrer — No. 10976 — PROFESSIONAL ENGINEER

ARCHITECTS/ENGINEERS:

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AE Works Project Number:

Drawing Title
COLUMN SCHEDULE

Approved: Project Director

Project Title:
Construct a New Residential Rehabilitation Treatment Program (RRTP) Building

Location: Perry Point VA Medical Center
Perry Point, MD 21902

Date: 6-11-15 | **Checked:** MAH | **Drawn:** MTH

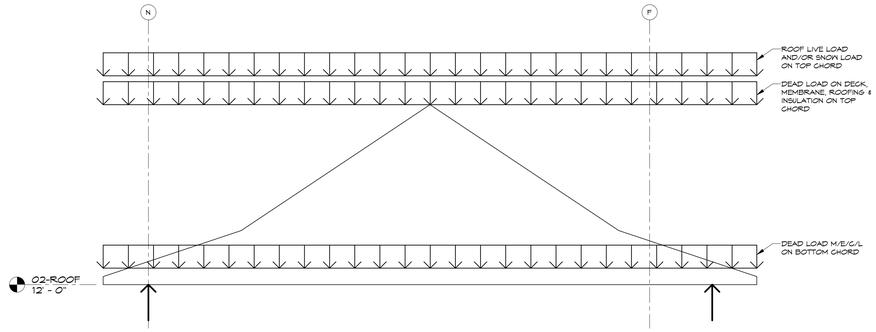
Project Number 512-531

Building Number

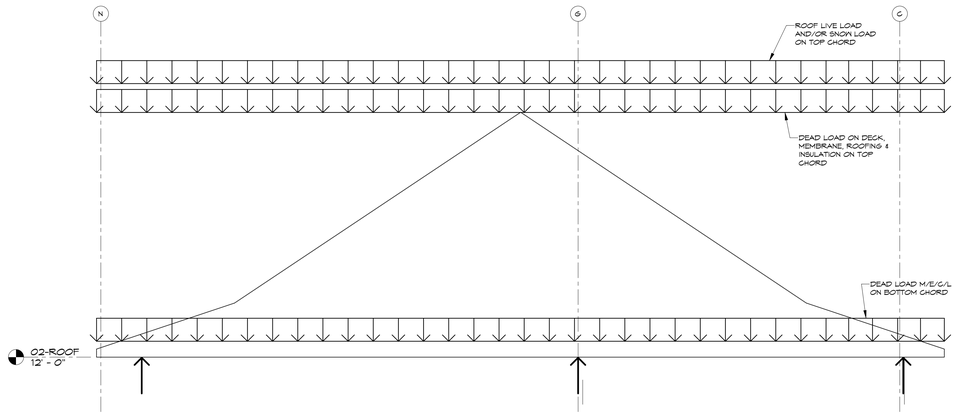
Drawing Number S600

Office of Construction and Facilities Management
Department of Veterans Affairs

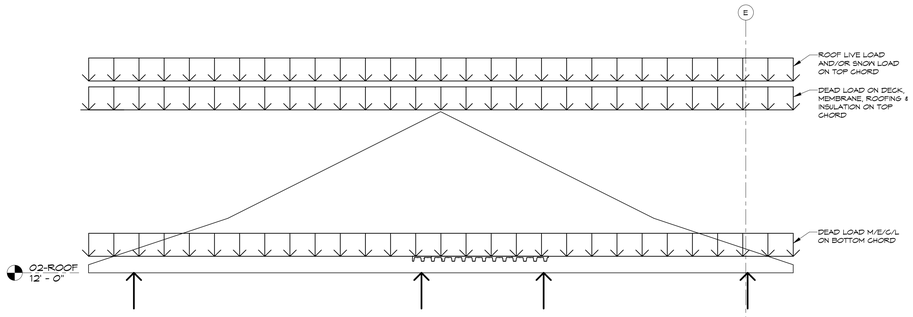
VA FORM 08-6231



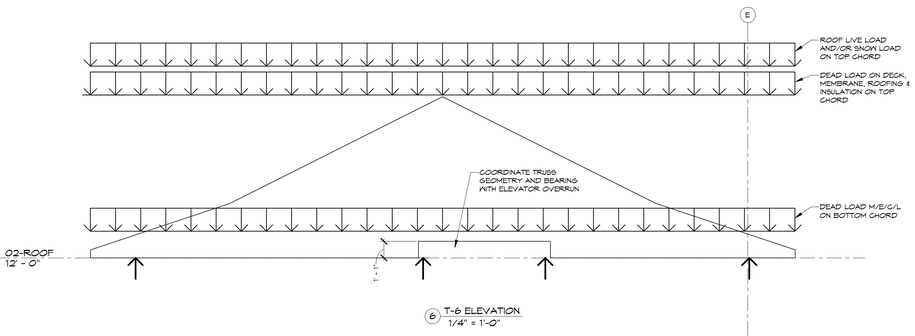
1 T-1 ELEVATION
1/4" = 1'-0"



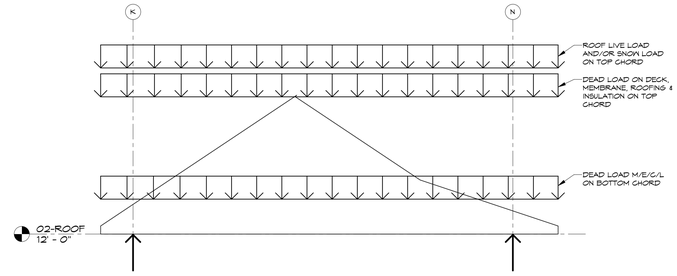
3 T-3 ELEVATION
1/4" = 1'-0"



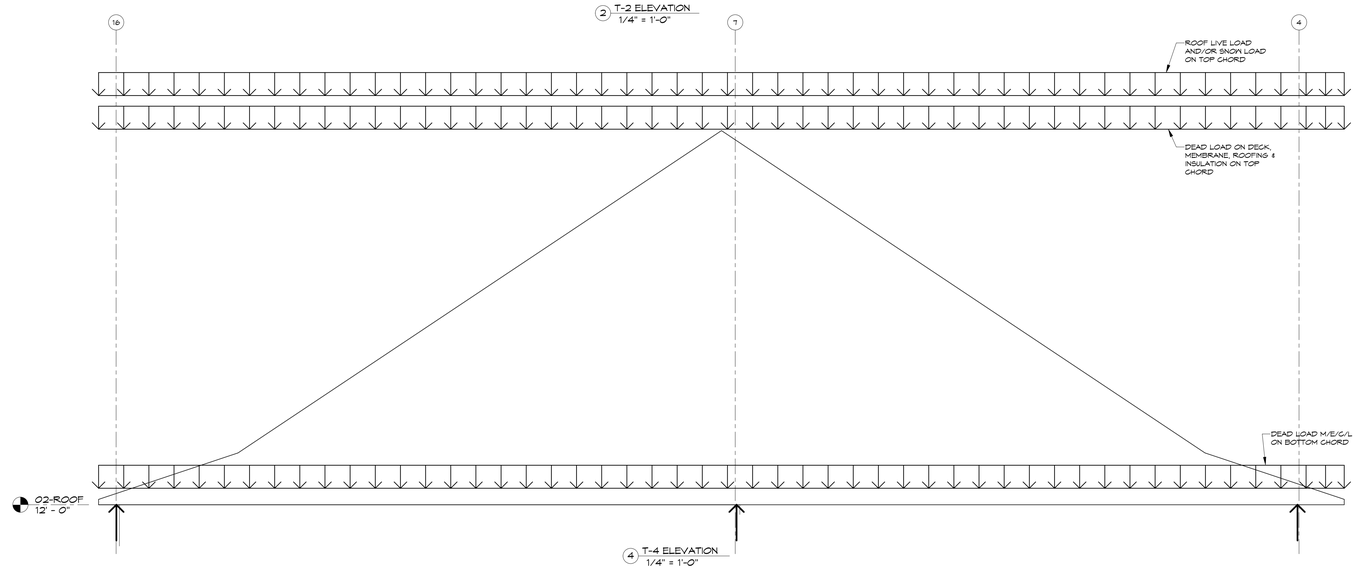
5 T-5 ELEVATION
1/4" = 1'-0"



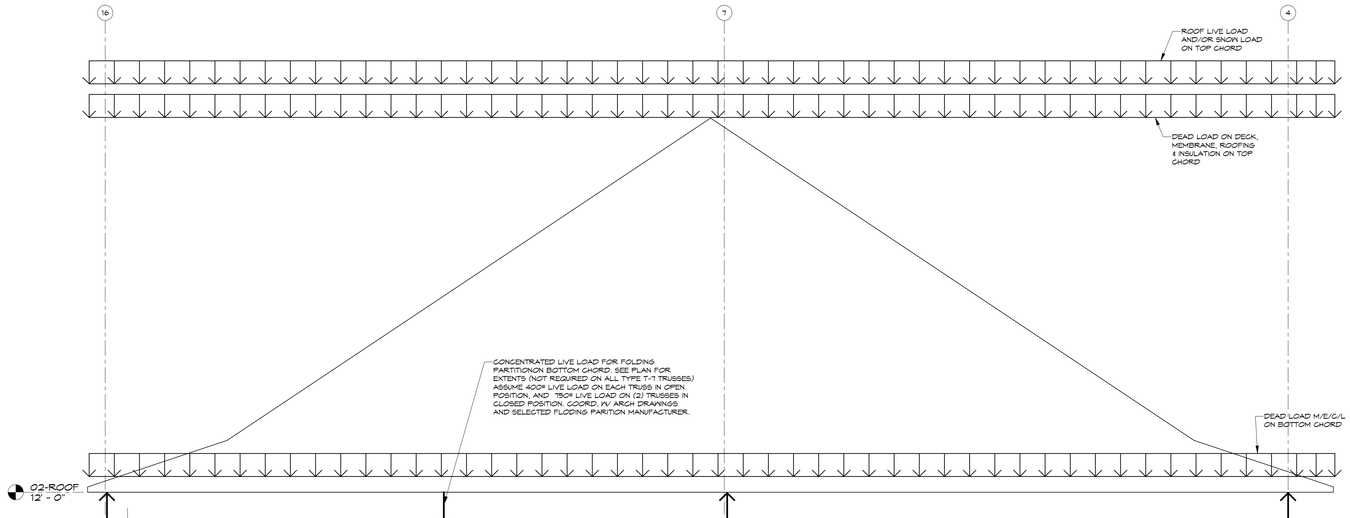
6 T-6 ELEVATION
1/4" = 1'-0"



2 T-2 ELEVATION
1/4" = 1'-0"



4 T-4 ELEVATION
1/4" = 1'-0"



7 T-7 ELEVATION
1/4" = 1'-0"

FULLY SPRINKLERED
BID DOCUMENTS

#	Revision	Date

CONSULTANTS:

HOPE FURRER Associates, Inc.

SITE RESOURCES
Comprehensive Land Planning & Site Design Services

leeandassociatesinc

SEAL

STATE OF MARYLAND
Mark Hughes Furrer
No. 10976
PROFESSIONAL ENGINEER

ARCHITECTS/ENGINEERS:

AE WORKS

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www.ae-works.com

AE Works Project Number:

Drawing Title
TRUSS ELEVATIONS

Approved: Project Director

Project Title:
Construct a New Residential Rehabilitation Treatment Program (RRTP) Building

Location: Perry Point VA Medical Center
Perry Point, MD 21902

Date: 6-11-15 | **Checked:** MAH | **Drawn:** MTH

Project Number 512-531

Building Number

Drawing Number S700

Office of Construction and Facilities Management

Department of Veterans Affairs

VA FORM 08-6231

three inches = one foot
one and one half inch = one foot
one inch = one foot
three quarters inch = one foot
one half inch = one foot
three eighths inch = one foot
one quarter inch = one foot
one eighth inch = one foot