

GENERAL STRUCTURAL AND CONSTRUCTION NOTES

1.0 GENERAL

- 1. All work shall conform to the '2015 International Building Code' and to all other applicable Federal, State, and Local regulations.
2. In case of conflict between the General Notes and details, the most rigid requirements shall govern.
3. Work not indicated on a part of the drawings but reasonably implied to be similar to that shown at corresponding places shall be repeated.
4. Job site safety and construction procedures are the sole responsibility of the Contractor.
5. The Contractor shall provide for dewatering as required during excavation and construction.
6. The Contractor shall coordinate openings, sleeves, concrete housekeeping pads, inserts, and depressions shown on the Architectural, Structural, Mechanical, Electrical, and Plumbing Drawings.
7. All costs of investigation and/or redesign due to Contractor improper installation of structural elements or other items not in conformance with the Contract Documents shall be at the Contractor's expense.
8. The structural drawings shall be used in conjunction with the specifications, architectural and mechanical drawings. If there is a discrepancy between drawings, it is the Contractor's responsibility to notify the Architect prior to performing the work.
9. The Contractor shall verify all existing building information shown (dimensions, elevations, etc.) and notify the Architect/Engineer of any discrepancies prior to fabrication of any structural component.
10. The Contractor shall verify and/or establish all existing conditions and dimensions at the site. Failure to notify Architect/Engineer of unsatisfactory conditions constitutes acceptance of unsatisfactory conditions.
11. If the existing field conditions do not permit the installation of the work in accordance with the details shown, the Contractor shall notify the Architect/Engineer immediately and provide a sketch of the condition with his proposed modification of the details given on the Contract Documents. Do not commence work until condition is resolved and modification is approved by the Architect.
12. The Contractor shall be responsible to determine allowable construction loads and to provide design and construction of falsework, formwork, staging, bracing, sheeting, and shoring, etc.
13. Contractor to provide sheathing, bracing, and underpinning as necessary to prevent any lateral or vertical movements of existing buildings, streets, and any existing utility lines.
14. Bracing, sheeting, shoring, etc., required to insure the structural integrity of the existing buildings or new construction, sidewalks, utilities, etc., shall be designed by a Professional Engineer engaged by the Contractor. Detailed signed and sealed shop drawings shall be prepared indicating all work to be performed. Submit the shop drawings in accordance with the Contract requirements.
15. In no case shall heavy equipment be permitted closer than 8'-0" from any foundation wall. If it is necessary to operate such equipment closer than 8'-0" to the wall, the Contractor shall be the sole responsible party and, at his own expense, shall provide adequate supports or brace the wall to withstand the additional loads superimposed from such equipment.
16. Shop drawings for all structural materials to be submitted to Engineer for review prior to the start of fabrication or commencement of work. Review period shall be a minimum of two (2) weeks.
17. Reproduction of any portion of the Structural Contract Drawings for resubmittal as shop drawings is prohibited. Shop drawings produced in such a manner will be rejected and returned.
18. Shop drawings shall bear the Contractor's stamp of approval which shall constitute certification that the Contractor has verified all construction criteria, materials, and similar data and has checked each drawing for completeness, coordination, and compliance with the Contract Documents.
19. The shop drawings shall include dimensioned floor and roof edges, openings and sleeves at all floors required for all trades.
20. The drawings have been produced entirely on MPP Engineers Cadd System. Any other lettering, lines or symbols, other than professional stamps and signatures, have been made without the authorization of MPP Engineers are invalid.
21. The structural drawings shall govern the work for all structural features, unless noted otherwise. The architectural drawings shall govern the work for all dimensions.
22. The Owner shall engage a testing agency to provide testing services as indicated in each section of these General Notes.
23. All materials shall be stored to protect them from exposure to the elements.

2.0 EARTHWORK

- 1. Excavation shall be performed so as not to disturb existing adjacent buildings, streets, and utility lines. Verify location of all utilities prior to commencement of work. Hand excavate around utilities as required.
2. Satisfactory fill materials are those complying with ASTM D2487, groups GW, GP, GM, SM, SW, and SP. On site borrow material shall be tested to determine suitability for use as fill material.
3. Compact soil to not less than the following percentages of maximum density of modified proctor (ASTM D1557):
Under building foundations - 98%
Under building slabs, steps, pavements - 95%
4. The Owner shall retain the services of a Professional Geotechnical Engineer to perform soil testing and inspection. The engineer shall inspect the subgrade to verify bearing levels and ensure that the safe bearing capacity meets or exceeds the design value indicated below. Reports shall be submitted to the Architect outlining the work performed and test results.

3.0 FOUNDATIONS

- 1. Foundations have been designed for an allowable bearing capacity and footing elevations established based upon adjacent building information, known information from adjacent sites, and similar soil conditions in the project vicinity. A new Subsurface Investigation Report, with foundation recommendations, has not been provided by the Owner for this project at this time. The soil information and bearing capacity shall be verified by a qualified Geotechnical Engineer during construction.
2. Footings shall bear on undisturbed stratum or engineered fill with a minimum bearing capacity of 3,000 psf.
3. Prior to footing concrete placement, the footing subgrade shall be approved by the inspecting Geotechnical Engineer. If conditions prove to be unacceptable at elevations shown, footing bottoms shall be lowered to acceptable subgrade material. Fill over-excavation with lean concrete (2,500 psi).

- 4. The bottom of exterior footings shall be a minimum of three (3) feet below finished grade, or as required by Local building codes.
5. The bearing elevations of new footings adjacent to existing footings are to match the adjacent existing footing bearing elevations unless indicated otherwise on plans.
6. Slabs on grade shall bear on mechanically compacted soil capable of supporting 150 psf. Drainage fill under slabs shall be compacted gravel or crushed stone.
7. Concrete for foundations shall be poured on the same day the subgrade is approved by the Geotechnical Engineer.
8. Utility lines shall not be placed through or below foundations without the Structural Engineer's approval.
9. The Contractor shall observe water conditions at the site and take the necessary precautions to ensure that the foundation excavations remain dry during construction. Any sheeting or shoring required for dewatering shall be the responsibility of the Contractor.
10. The Contractor shall be responsible for coordinating the need to use foundation rebar as a grounding electrode system and shall be responsible for installing the bonding clamp prior to placement of the concrete as per NUCC Bulletin No. 02-2.

4.0 CAST-IN-PLACE CONCRETE

- 1. Concrete shall be designed and detailed in accordance with the Building Code Requirements for Structural Concrete (ACI-318-14), and constructed in accordance with the CRSI Manual of Standard Practice.
2. Concrete for slabs and piers shall have a minimum compressive 28-day strength of 4,000 psi; all other concrete shall be 3,000 psi. Air Entrainment 4% to 6% in all exposed concrete work.
3. Maximum water/cement ratios:
A. Foundations 0.50
B. Exterior Slabs 0.44
4. All concrete shall be normal weight concrete (144 pcf +) with all cement conforming to ASTM C150, Type I. Maximum aggregate size shall be 1-1/2" for footings and 3/4" for walls and slabs, conforming to ASTM C33.
5. Reinforcing steel: ASTM A615 Grade 60.
6. Welded Wire Reinforcement: (WWR) ASTM A-185.
7. Leveling Grout shall be non-shrink, non-metallic type, factory pre-mixed grout in accordance with CE-CRD-C621 or ASTM C109, with a minimum compressive 28-day strength of 5,000 psi.
8. Reinforcing steel clear cover shall be as follows unless noted otherwise:
A. Concrete cast against and permanently exposed to earth 3"
B. Concrete exposed to earth or weather
#6 bars and larger 2"
#5 bars and smaller 1-1/2"
9. Submit to Architect/Engineer reinforcing steel shop drawings for approval and mix designs for review prior to placing any concrete.
10. All reinforcement shall be securely held in place while placing concrete. If required, additional bars, stirrups or chairs shall be provided by the Contractor to furnish support for all bars.
11. Lap welded wire reinforcement two (2) full wire spaces at splices and wire together.
12. Provide plastic tipped bolsters and chairs at all locations where the concrete surface in contact with the bolsters or chairs is exposed.
13. Placing of concrete shall not start until the placement of reinforcing has been approved by the Inspection Agency.
14. Bonding agent shall be used where new concrete is placed against existing concrete.
15. Epoxy adhesive shall be used where dowels are to be installed into existing concrete. Submit manufacturer information for engineer review.
16. No sleeve shall be placed through any concrete element unless shown on the approved shop drawings or specifically authorized in writing by the Structural Engineer. The Contractor shall verify dimensions and locations of all slots, pipe sleeves, etc. as required for mechanical trades before concrete is placed.
17. Pipes or conduits placed in slabs shall not have an outside diameter larger than 1/3 the slab thickness and shall not be spaced closer than 3 diameters on center. Aluminum conduits shall not be placed in concrete. No conduits shall be placed in slabs within 12 inches of column face or face of bearing wall. No conduits may be placed in exterior slabs or slabs subjected to fluids.
18. Prior to placing concrete, the Contractor shall submit for review by the structural engineer, a concrete pour schedule showing location of all proposed construction joints and waterstops.
19. Prior to concrete placement, the Contractor shall submit to the structural engineer for review, concrete mix designs prepared in accordance with the specifications and requirements indicated in the general notes.
20. Concrete shall not be pumped through aluminum pipes and shall not be placed in contact with aluminum forms, mixing drums, buggies, chutes, conveyors or other equipment made of aluminum.
21. All inserts and sleeves shall be cast-in-place whenever feasible. Drilled or powder driven fasteners will be permitted when proven to the satisfaction of the Structural Engineer that the fasteners will not spall the concrete and have the same capacity as cast-in-place inserts.
22. When installing expansion bolts or adhesive anchors, the Contractor shall take measures to avoid drilling or cutting of any existing reinforcing and destruction of concrete. Holes shall be blown clean prior to placing bolts or adhesive anchors.
23. Chamfer all exposed concrete corners unless noted otherwise on Architectural Drawings.
24. Early drying out of concrete, especially during the first 24 hours, shall be carefully guarded against. All surfaces shall be moist cured or protected using a membrane curing agent applied as soon as forms are removed. If membrane curing agent is used, exercise care not to damage coating.
25. Cold weather concreting shall be in accordance with ACI-306. Hot weather concreting shall be in accordance with ACI-305R.
26. Throughout construction, the concrete work shall be adequately protected against damage due to excessive loading, construction equipment, materials or methods, ice, rain, snow, excessive heat, and freezing temperatures.

5.0 MASONRY

- 1. Masonry has been designed in accordance with the Building Code Requirements for Masonry Structures (ACI 530-05/ASCE 5-05) and shall be constructed in accordance with the Specifications for Masonry Structures (ACI 530.1-05/ASCE 6-05), except where otherwise modified by these General Notes and Specifications.
2. Mortar shall conform to ASTM C270, Type M or S. All Portland cement shall conform to ASTM C150, Type I. Lime shall conform to ASTM C207 and masonry cement shall conform to ASTM C91.
3. Grout shall conform to ASTM C476 and shall have a minimum 28 day compressive strength of 3000 psi. Slump of grout shall be 8 to 10 inches and the maximum aggregate size shall be 3/8" (aggregate graded to produce fine grout in conformance with ASTM C476 and C404).
4. Concrete Block Units:
A. Solid and hollow load bearing units per ASTM C90, Type N-1, as required to provide 28 day compressive strength, f'm as noted below.
5. Minimum 28-day compressive strength of masonry, f'm shall be 1,500 psi, unless noted otherwise.
6. Full bed and head joints shall be provided.
7. Horizontal Joint Reinforcing: ASTM A82; 9-gage truss-type, galvanized.
8. Deformed bar reinforcement shall conform to ASTM A615, Grade 60 and shall be full height of walls unless otherwise noted. Provide bar spacers and positioners as required to properly locate and stabilize reinforcing during grouting operations. Grout all reinforced cells solid with grout.
9. Hollow concrete units below grade and slab on grade shall be normal weight and have all cells grouted solid.
10. Provide and install temporary bracing required insuring stability of all walls during construction and until erection of attached structural framing is completed.
11. Provide galvanized horizontal joint reinforcement in all walls and partitions at 16" o.c. unless otherwise shown or noted. Provide one (1) piece prefabricated units at 8' o.c. at all wall corners and intersections.
12. Lap splices for deformed reinforcing bars used in masonry construction shall be 50 bar diameters.
13. Submit grout mix design and masonry unit certifications to the Architect for review.
14. Grout placement shall not start until the placement of reinforcing has been approved by the Inspection Agency.
15. Fill all cells in top two courses below finished floor, CMU lintels, bond beams, and beam bearings and cells with reinforcement full height solid with grout.
16. Allow grout in reinforced CMU walls to cure a minimum of 48 hours before imposing concentrated or other loads from above.
17. Provide masonry anchors set on coursing and attached to all beams at 32" o.c. horizontal, columns at 24" o.c. vertical, partitions and walls at 16" o.c. at all beams, columns, partitions and walls abutting or embedded in masonry unless noted otherwise on Architectural and Structural drawings.
18. Provide bond beams with two (2) #4 horizontal reinforcement continuous in all masonry walls at each framing level. Provide a minimum of two (2) #4 bars at the ends of all walls and on each side of each opening.
19. All piers and partitions shall be bonded or anchored to adjacent masonry walls. Provide ties to adjacent floor and roof construction in accordance with details on drawings.
20. All masonry work to be executed in cold weather shall be in conformance with the recommendations for cold weather construction found in the Building Code Requirements for Masonry Structures (ACI 530-05/ASCE 5-05) and shall be constructed in accordance with the Specifications for Masonry Structures (ACI 530.1-05/ASCE 6-05) with the following additions: For all conditions when temperatures fall below 40 degrees F, the temperature of the newly laid masonry or newly grouted masonry shall be maintained above 32 degrees F for a minimum of 24 hours using the methods described in ACI 530.1.
21. All wall sections and piers less than two square feet in cross-sectional area shall be fully grouted.

6.0 STRUCTURAL STEEL

- 1. Fabrication and erection of structural steel shall conform to the "Steel Construction Manual", Thirteenth Edition, 2005, American Institute of Steel Construction including Specifications for Structural Steel Buildings, Specification for Structural Joints Using ASTM A325 or A490 Bolts, and AISC Code of Standard Practice except Sections 4.2 and 7.9 which shall not be applicable to this project.
2. All welding shall be performed by certified welders and shall conform to "Structural Welding Code ANSI/AWS D1.1-92", American Welding Society.
3. Wide flange shapes: ASTM A992 or A572, Grade 50.
4. Structural shapes & plates: ASTM A36, A572 or A992.
5. Steel pipe: ASTM A53, GRADE B.
6. Steel tubing (square, rect. or round): ASTM A500, Grade B.
7. Galvanized structural steel:
A. Structural shapes and rods ASTM A123.
B. Bolts, fasteners and hardware ASTM A153.
8. All bolted connections shall be with ASTM A325 high strength bolts 3/4" minimum diameter, unless noted otherwise.
9. Welding electrodes shall be E70XX for manual arc welding and F7X-E6XX for submerged arc welding. All welders shall be certified by the AWS. Minimum weld size shall be 3/16" unless noted otherwise.
10. Submit shop drawings for fabrication and erection of structural steel. Clearly indicate coordinated dimensions of mechanical unit and roof penetration sizes. Shop and Erection drawings must show all shop/floor and field welds. Initial shop drawing submittal shall include proposed connection details and job standards. Provide signed and sealed calculations for all non-standard connection details showing design capacities.

7.0 STRUCTURAL WOOD

- 1. Design, fabrication, and construction of wood framing shall conform with the following codes and standards.
C. "National Design Specifications for Wood Construction", 2005 Edition. (with supplement), American Forest and Paper Association.
2. Base Design Values for roof/floor joist framing: Doug-Fir No. 1 and No.2 (Fb = 850 psi, Fv = 180 psi, E = 1,600,000 psi) minimum.
3. All plywood sheathing shall comply with APA. Plywood shall meet C-D Interior APA, Structural I and II C-D Interior APA, or Structural I and II C-C Exterior APA. Attachment to be in accordance with IBC requirements. All plywood to have exterior glue.
4. Roof sheathing shall be APA rated sheathing, 19/32" thick, 40/20.
5. Provide nailing pattern in compliance with IBC recommended fastening schedule when joining two or more framing members.
6. Base Design Value for all other structural wood framing: minimum extreme fiber in bending, Fb = 850 psi; minimum horizontal shear, Fv = 180 psi; minimum compression parallel to grain, Fc = 1,400 psi.
7. Hanger connections for joists, beams, trusses, and manufactured wood framing shall be Strong-Tie connectors by Simpson or approved equal.
8. See International Building Code for minimum bracing and fastening requirements.
9. Members shall be set with crown up and have a minimum of 3" bearing.
10. All joists and rafters shall be rigidly bridged at intervals not exceeding 8'-0".
11. All bolts and lag bolts shall be filled with galvanized, malleable iron or steel plate washers.
12. No field alteration of pre-fabricated trusses is permitted unless done in accordance with truss manufacturer's approved modification details.
13. All wood members exposed to exterior to be pressure treated.
14. Provide fasteners, anchors and connectors with adequate corrosion protection, where in contact with treated wood. Provide minimum ZMAX coating where Simpson connectors are used in contact with treated wood.

8.0 DESIGN DATA

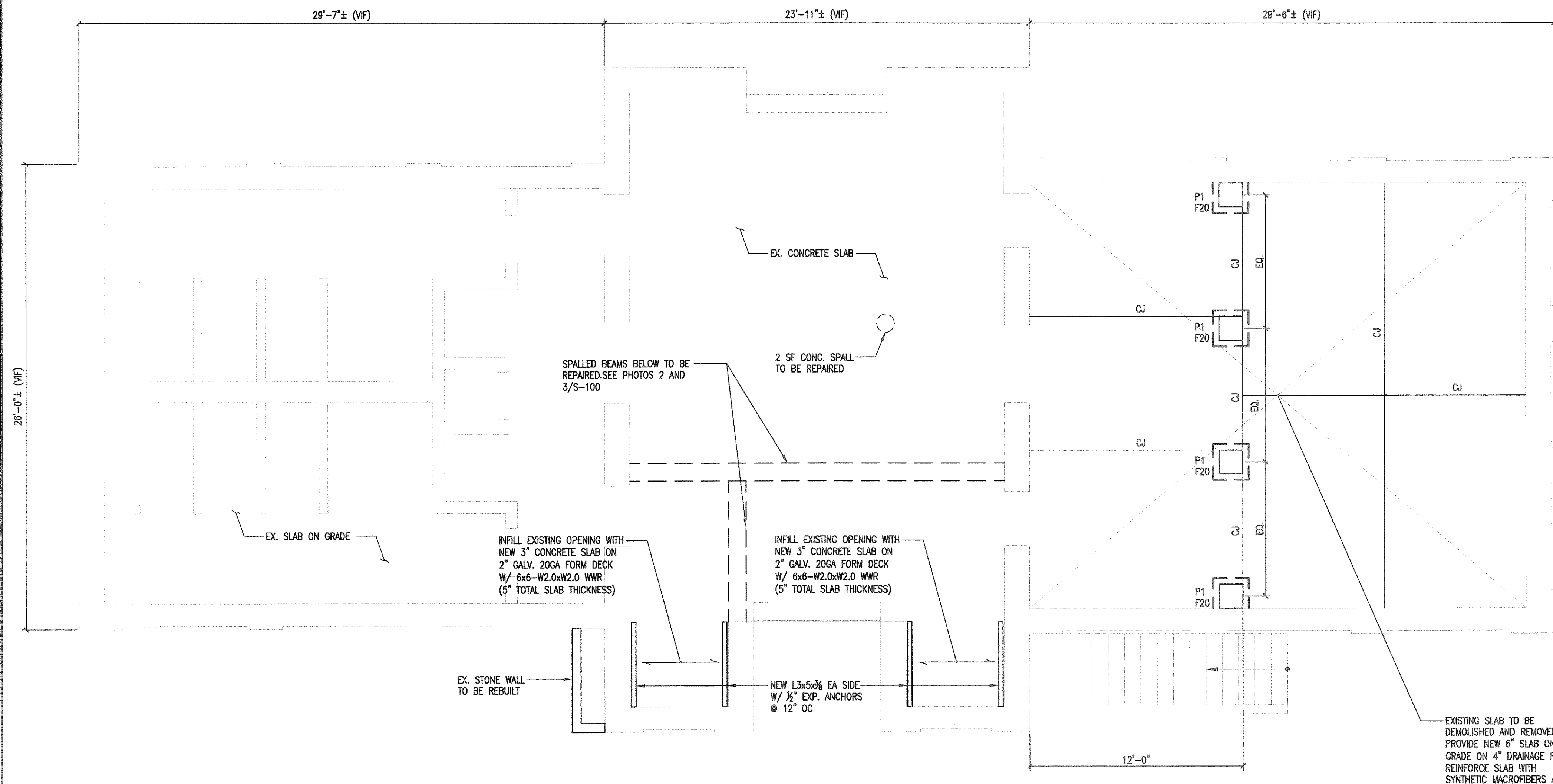
- 1. Governing Code: International Building Code 2015
2. Roof Live Load
A. Live Load.....20 PSF
B. Snow Load:
Pg (Ground Snow Load).....30 PSF
Pf (Flat Snow Load).....21 PSF
Ce (Snow Exposure Factor).....1.0
I (Snow Load Importance Factor).....1.0
Ct (Thermal Factor).....1.2
3. Wind Load:
A. Basic Wind Speed.....115 MPH
B. Risk Category.....II
C. Wind Exposure.....B
D. Wind Direction.....As per the code
E. Internal Pressure Coefficient..... +/-0.18
F. Components & Cladding Wind Pressure.....As per the Code
4. Earthquake Design Data: N/A, existing building
5. Special Loads:
A. Dead Loads:
1. Materials Of Construction Roof
i. Sheathing.....2 PSF
ii. Roofing.....3 PSF
iii. Framing.....5 PSF
iv. Misc. Mech./Elec./Plumbing.....6 PSF
Total.....16 PSF
2. Fixed Service Equipment
i. Mechanical Equipment - See Plan
ii. Electrical Equipment- See Plan

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Project title block: GENERAL NOTES, HETZEL FIELD PARK IMPROVEMENTS, 190 OLDEN AVE LOTS 6, 7, & 8 BLOCK 25501/LOT 6 BLOCK 25601 CITY OF TRENTON, COUNTY OF MERCER, STATE OF NEW JERSEY. Includes drawing number 13-0705, date 09/07/2017, and sheet number S-001.





**EXISTING GROUND FLOOR AND NEW SLAB AND FOUNDATION PLAN**  
 SCALE: 1/4" = 1'-0" (DO NOT SCALE PLAN)

- P1 DENOTES 16"x16" CMU PIER W/(4) #5 VERTICAL AND ALL CELLS FILLED SOLID
- F20 DENOTES 1'-0" THICK X 2'-0" X 2'-0" FOOTING. TOP OF FOOTING TO BE 2'-0" BELOW GRADE
- CJ DENOTES CONTROL JOINT.

RETAINING WALL SPALL TO BE REPAIRED PER TD3/S-100. APPROXIMATE REPAIR AREA 25 SF.

BEAM SPALL TO BE REPAIRED PER TD2/S-100. APPROXIMATE REPAIR AREA 20 SF.

BEAM SPALL TO BE REPAIRED PER TD2/S-100. APPROXIMATE REPAIR AREA 10 SF.



PHOTO 1: SPALL AT TOP OF EXISTING RETAINING WALL



PHOTO 2: SPALL AT THE UNDERSIDE OF EXISTING CONCRETE BEAM IN BASEMENT

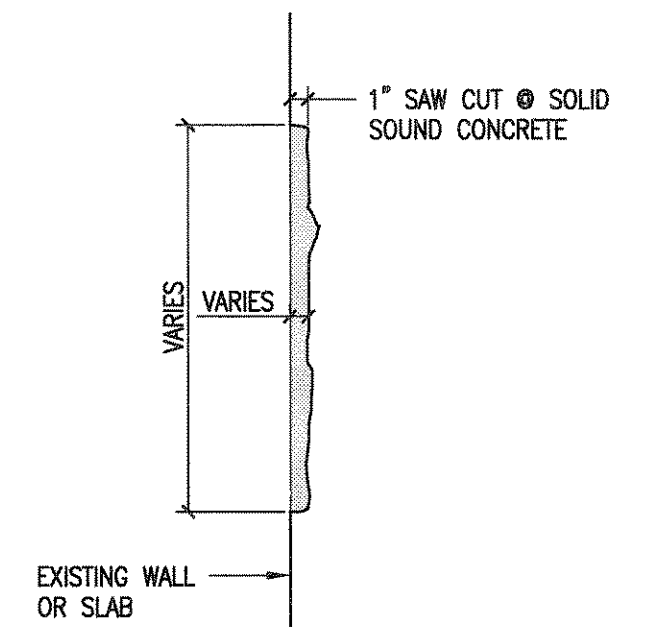


PHOTO 3: SPALL AT THE UNDERSIDE OF EXISTING CONCRETE BEAM IN BASEMENT

- EPOXY BONDING AGENT:**
- USE
    - PRIMING OF EXPOSED, OPEN CONCRETE
    - COATING EXPOSED, CLEANED REINFORCING STEEL
  - SUBMITTALS
    - SUBMIT MANUFACTURER'S PRODUCT DATA FOR SPECIFIED MATERIAL
  - MATERIALS
    - PROVIDE PORTLAND CEMENT AND EPOXY BASED, ANTI-CORROSION BONDING AGENT WITH MINIMUM OPEN TIME OF 20 HOURS.
    - APPROVED PRODUCTS:
      - "ARMATEC 110" BY SIKA CONCRETE RESTORATION SYSTEMS
      - "STO BONDING AND ANTI-CORROSION AGENT", BY STO CONCRETE RESTORATION DIVISION
      - OR APPROVED EQUAL
  - EXECUTION
    - PAINT OR SPRAY-ON BONDING AGENT. COAT FULL PERIMETER OF REINFORCING STEEL. COAT SURFACE OF CONCRETE BENEATH REINFORCING STEEL.
    - USE PIGMENTING AGENT TO ASSURE COMPLETE COVERAGE
    - DO NOT LEAVE BONDING AGENT IN PLACE FOR MORE THAN 20 HOURS WITHOUT REAPPLICATION

- LATEX-MODIFIED CEMENTITIOUS MORTAR:**
- USE
    - REPAIR OF DAMAGED CONCRETE
  - SUBMITTALS
    - SUBMIT MANUFACTURER'S PRODUCT DATA FOR SPECIFIED MATERIAL
    - CONTRACTOR AND PROJECT SUPERINTENDENT SHALL HAVE A MINIMUM OF FIVE YEARS EXPERIENCE REPAIRING AND RESTORING DAMAGED CONCRETE AND SHALL SUBMIT PRIOR PROJECT LIST
  - MATERIALS
    - OVERHEAD CONCRETE REPAIRS:
      - "STO OVERHEAD MORTAR" BY STO CONCRETE RESTORATION DIVISION
      - "SIKATOP 123 PLUS" BY SIKA CONCRETE RESTORATION SYSTEMS
      - OR APPROVED EQUAL
    - HORIZONTAL AND VERTICAL CONCRETE REPAIRS:
      - "STO TROWEL - GRADE MORTAR" BY STO CONCRETE RESTORATION DIVISION
      - "SIKATOP 122 PLUS" BY SIKA CONCRETE RESTORATION SYSTEMS
      - OR APPROVED EQUAL
    - REPAIRS REQUIRING A FORMED PATCH SURFACE:
      - "SIKATOP III PLUS" BY SIKA CONCRETE RESTORATION SYSTEMS
      - OR APPROVED EQUAL
  - EXECUTION
    - SUBSTRATE PREPARATION
      - SAWCUT INITIAL 1/2" OF CONCRETE PERPENDICULAR TO SURFACE.
      - HAND CHIP ALL UNSOUND CONCRETE FROM CENTER OF SPALL. REMOVE MINIMUM OF 1" OF CONCRETE IN DEPTH.
    - REINFORCING STEEL PREPARATION
      - FREE ALL REBAR 1/2" CLEAR BETWEEN STEEL AND SUBSTRATE. IF CORROSION EXTENDS BEYOND EDGE OF PREPARED SPALL, HAND CHIP ADDITIONAL CONCRETE TO EXPOSE CORRODED REINFORCING UNTIL FOUR (4) LINEAR INCHES OF UNOXIDIZED STEEL ARE VISIBLE.
      - SAND OR WATER BLAST CLEAN ALL SURFACE CORROSION FROM EXPOSED REBAR.
      - IF REINFORCING STEEL HAS LOST MORE THAN 25% OF ITS ORIGINAL SECTION, SPLICE IN NEW MATCHING REBAR PER THE REQUIREMENTS OF ACI 318-09.
      - CONTRACTOR SHALL NOT EXTEND REPAIR WORK BEYOND BID DIMENSIONS WITHOUT APPROVAL BY OWNER'S REPRESENTATIVE. CONTRACTOR & OWNER'S REPRESENTATIVE SHALL AGREE UPON REVIEW PROCEDURES PRIOR TO INITIATION OF CONCRETE REPAIR WORK. CONTRACTOR SHALL MAINTAIN A RECORD OF ALL REPAIR AREAS WHICH EXCEED THE BID UNITS. OWNER'S REPRESENTATIVE WILL MAINTAIN SIMILAR RECORDS FOR USE IN RESOLVING DISPUTES.
    - APPLICATION OF MORTAR
      - SUBSTRATE SHALL BE MAINTAINED AT SATURATED SURFACE DRY (SSD) CONDITION, WITH NO OBSERVABLE WATER ACCUMULATION. APPLY SCRUB COAT OF POLYMER-MODIFIED CEMENTITIOUS PATCHING MATERIAL TO SUBSTRATE.
      - WHILE SUBSTRATE IS WET, HAND TROWEL APPLY PATCHING MATERIAL TO PREPARED SPALL AREA. FOR APPLICATIONS GREATER THAN 1-1/2" IN DEPTH, APPLY PATCHING MATERIAL IN LIFTS. SCORE SURFACE OF EACH LIFT TO PRODUCE ROUGHENED SURFACE FOR NEXT LIFT. ALLOW PROCEEDING LIFT TO REACH FINAL SET BEFORE APPLYING NEXT LIFT.
      - FOR REPAIRS REQUIRING FORMED PATCH SURFACE, CONSTRUCT FORM WORK OF PLYWOOD OR METAL SUFFICIENT TO SUPPORT THE WET WEIGHT OF REPAIR MATERIAL PRIOR TO FINAL CURE.
      - PROVIDE ADEQUATE SUPPORT FOR FORM WORK ASSEMBLY WITHOUT RELYING ON NEW BOLT HOLES, SUPPORT HANGERS OR OTHER INTRUSIVE DEVICES.
      - COAT FORM WORK WITH DEBONDING AGENT TO FACILITATE STRIPPING.
      - FORMED REPAIRS REQUIRE A POURABLE REPAIR MATERIAL, "SIKATOP III PLUS" BY SIKA CONCRETE RESTORATION SYSTEMS. HAND TROWELING NOT PERMITTED.
      - CURE CONCRETE PATCH REPAIRS PER MANUFACTURER'S RECOMMENDATIONS. PATCHES TO BE FULLY CURED PRIOR TO REAPPLICATION OF EXTERNAL LOADS TO AFFECTED AREAS, INCLUDING STRIPPING OF FORMWORK AND RELEASE OF SHORING.

**TD2 TYPICAL DETAIL**  
**S-100 UNDERSIDE CONCRETE REPAIR**



- SEQUENCE OF CONCRETE REPAIR WORK:**
- REMOVE SPALLED AND DETERIORATING CONCRETE DOWN TO SOLID SOUND CONCRETE.
  - SCARIFY EXISTING SURFACE TO MIN SURFACE PROFILE OF 1/16".
  - COAT SURFACE WITH BONDING AGENT ("SIKA ARMATEC" OR APPROVED EQUAL)
  - REPAIR AREA WITH POLYMER MODIFY CEMENTITIOUS PATCHING MATERIAL ("SIKA REPAIR 122 OR APPROVED EQUAL") APPLY IN STRICT ACCORDANCE WITH MANUFACTURER'S RECOMMENDATION

**TD3 TYPICAL DETAIL**  
**S-100 HORIZONTAL/VERTICAL CONCRETE REPAIR**

**TD1 TYPICAL DETAIL**  
**S-100 CONCRETE REPAIR SPECIFICATIONS**


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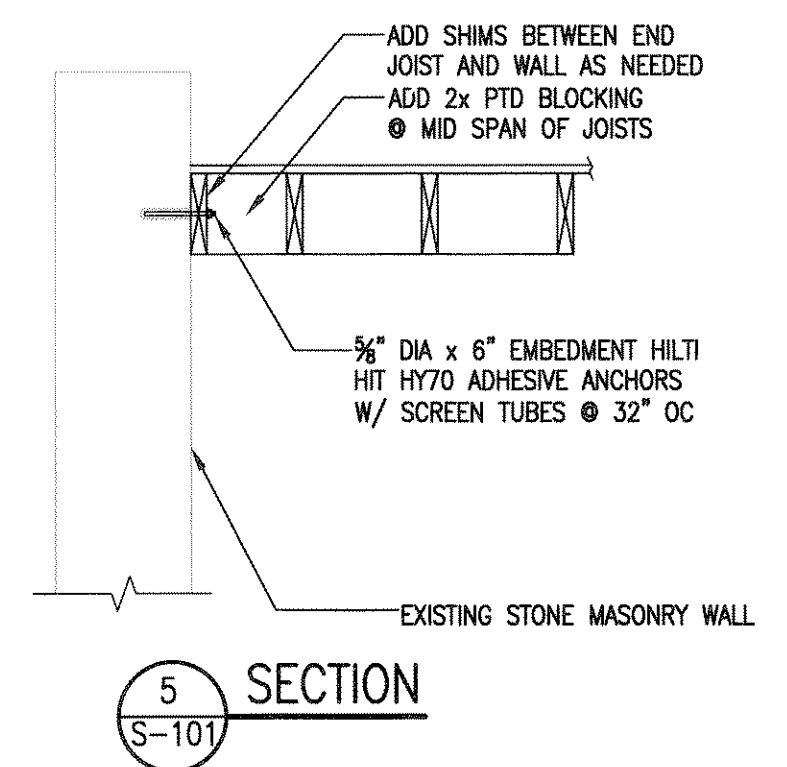
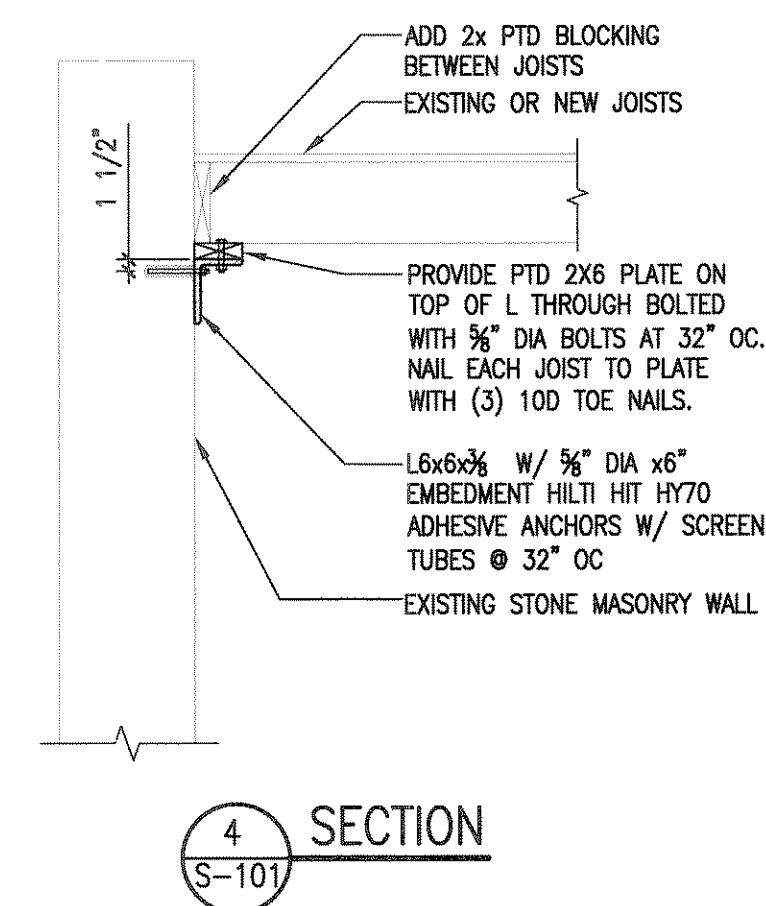
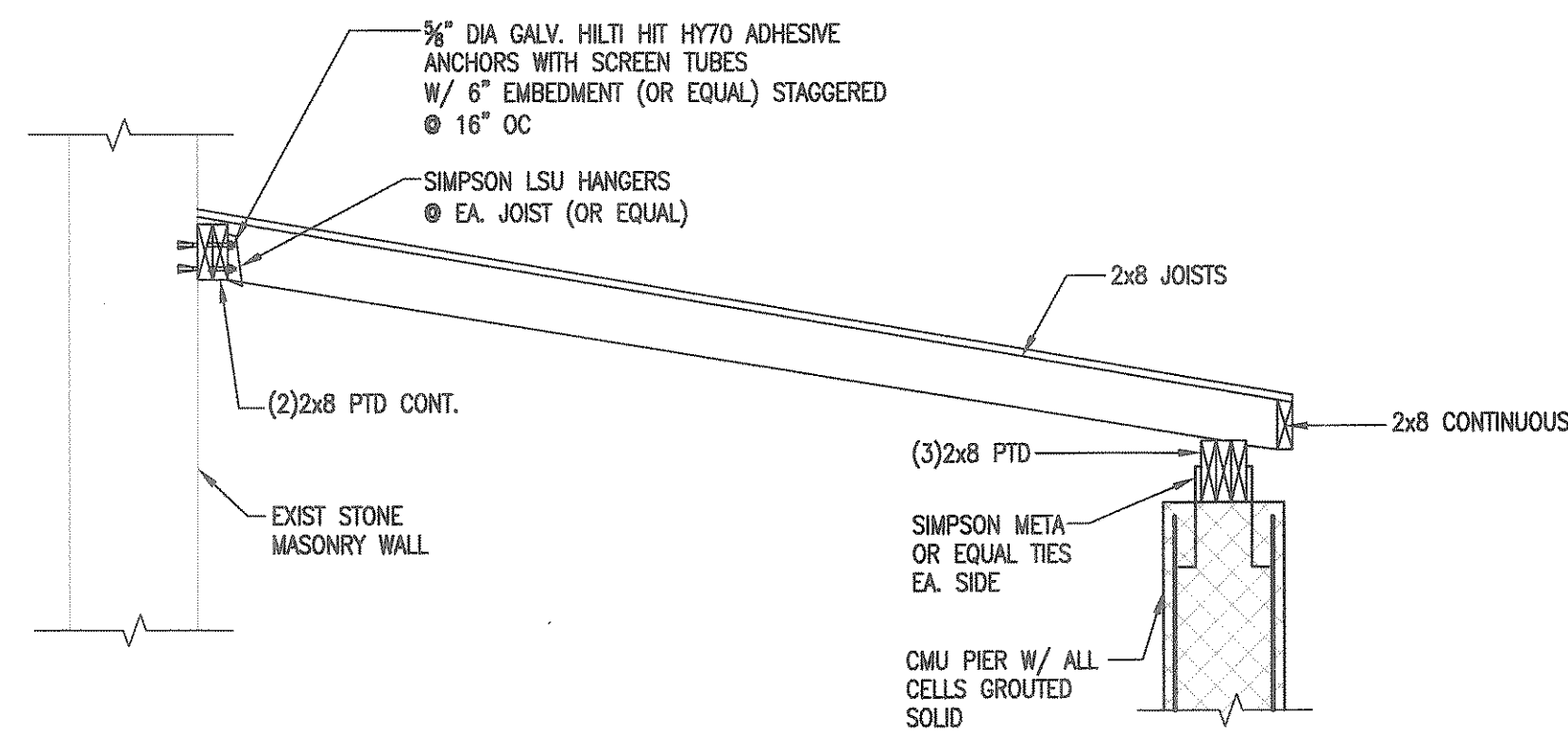
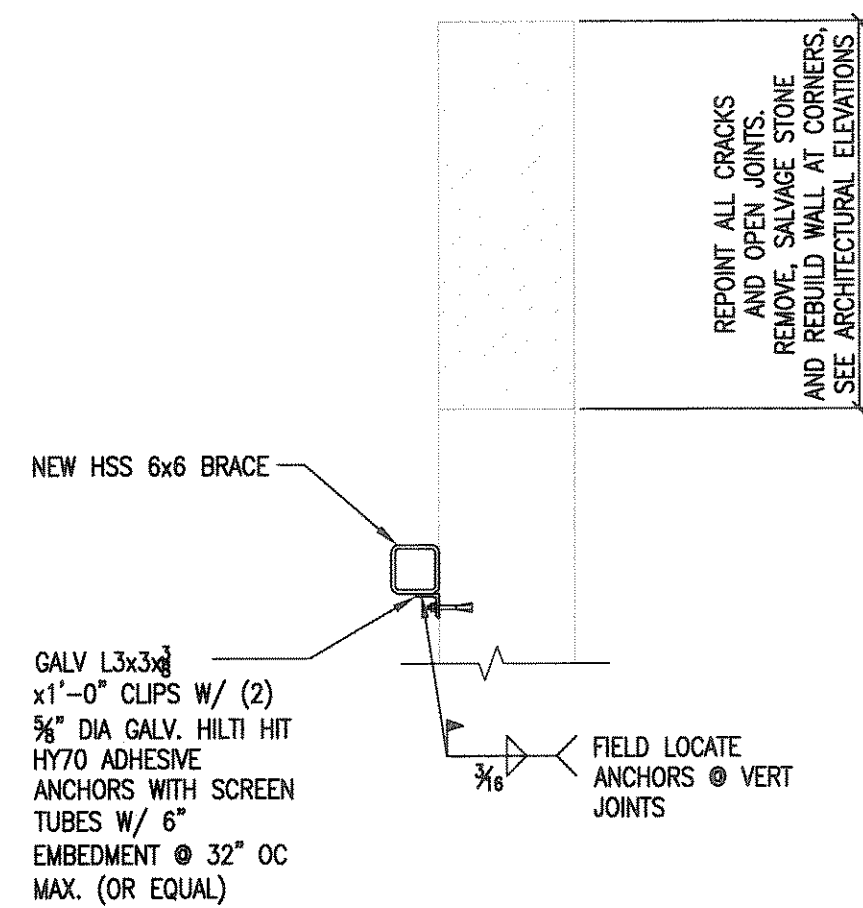
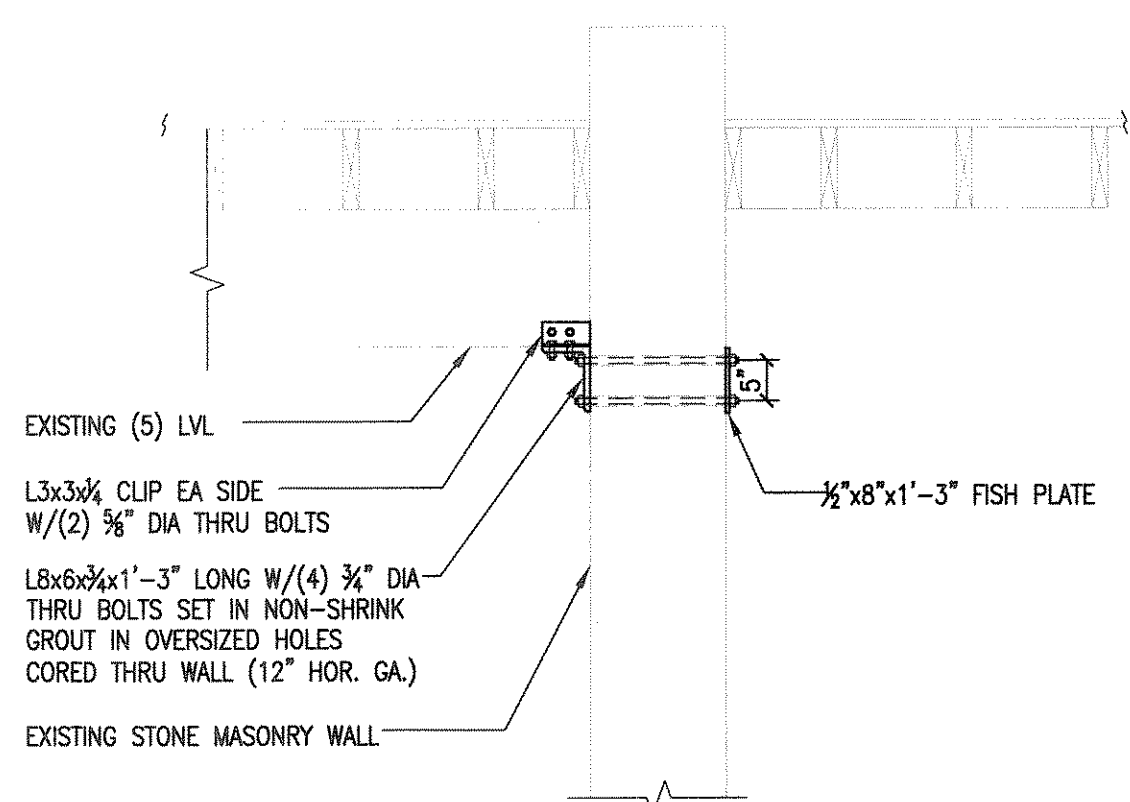
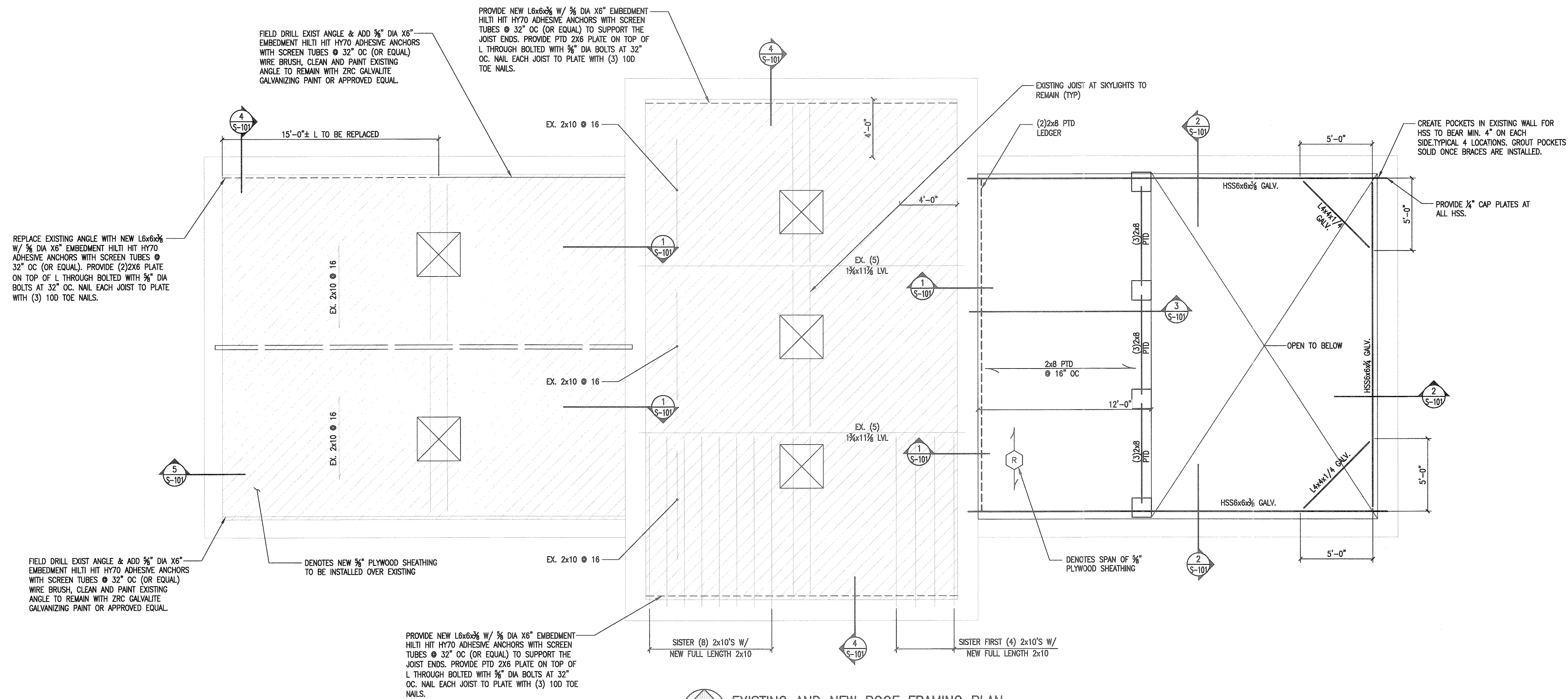
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**EXISTING FLOOR PLAN**  
**HETZEL FIELD PARK IMPROVEMENTS**  
 190 OLDEN AVE LOTS 6, 7, & 8 BLOCK 25501/ LOT 6 BLOCK 25601  
 CITY OF TRENTON, COUNTY OF MERCER, STATE OF NEW JERSEY

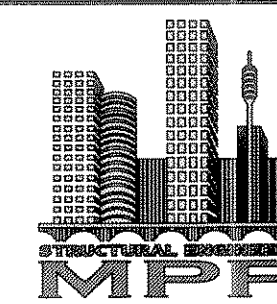
PROJECT NO	13-0705	DATE	09/07/2017
DRAWN BY	MPP	DESIGNED BY	DGP
CHECKED BY	AS SHOWN	INVESTIGATED BY	DGP
MPP Engineers LLC		SHEET NO.	
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**EXISTING ROOF FRAMING PLAN AND SECTIONS**

**HETZEL FIELD PARK IMPROVEMENTS**  
190 OLDEN AVE. LOTS 6, 7, & 8 BLOCK 25501/ LOT 6 BLOCK 25601  
CITY OF TRENTON, COUNTY OF MERCER, STATE OF NEW JERSEY

PROJECT NO: 13-0705  
DATE: 09/07/2017  
DRAWN BY: MPP  
CHECKED BY: DGP  
SCALE: AS SHOWN  
ENGINEER BY: DGP  
MPP Engineers LLC  
SHEET NO: S-101