

Cellco Partnership DBA



CONNECTICUT SITING COUNCIL D&M PLAN

WIRELESS COMMUNICATIONS FACILITY WEST HARTFORD WEST FACILITY RELOCATION 139 NORTH MAIN STREET WEST HARTFORD, CONNECTICUT



Project
**CLOCK TOWER
AMERICAN SCHOOL FOR
THE DEAF**

139 North Main Street
West Hartford, Connecticut

Prepared For
VERIZON WIRELESS

Project No: 2013.02

CEN TEK engineering
Centered on Solutions™

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Branford, CT 06405

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SITING COUNCIL

SITE INFORMATION

THE SCOPE OF WORK SHALL INCLUDE:

1. THE CONSTRUCTION OF A +/- 30' X 30' CLOCK TOWER/MULTI CARRIER WIRELESS TELECOMMUNICATIONS STRUCTURE WITHIN A 60' X 100' LEASE AREA. THE TOWER STRUCTURE WILL CONSIST OF (3) FLOOR LEVELS ALLOCATED FOR WIRELESS CARRIER EQUIPMENT AND (1) FLOOR LEVEL ALLOCATED FOR HVAC EQUIPMENT AND SHARED BACKUP POWER GENERATOR. THE UPPER PORTION OF TOWER WILL CONCEAL (2) CENTERLINE ELEVATIONS OF ANTENNAS FOR CELCO PARTNERSHIP, (1) CENTERLINE ANTENNA ELEVATION FOR AT&T AND (1) CENTERLINE ANTENNA ELEVATION FOR A FUTURE CARRIER'S ANTENNAS.
2. TREE PLANTINGS AND GARDEN WALLS ARE PROPOSED TO BE INSTALLED ADJACENT TO THE PROPOSED CLOCK TOWER.
3. ACCESS TO THE PROPOSED CLOCK TOWER SITE WILL BE VIA THE EXISTING DRIVE OF THE SUBJECT PROPERTY OF THE AMERICAN SCHOOL FOR THE DEAF. THE PROPOSED SITE IS LOCATED APPROXIMATELY 1,490' FROM THE EXISTING PROPERTY ENTRANCE OFF OF NORTH MAIN STREET.
4. CELCO'S EXISTING TELECOMMUNICATIONS SITE THAT EXISTS ON THE SUBJECT PROPERTY WILL BE DECOMMISSIONED UPON COMPLETION OF THE PROPOSED SITE CONSTRUCTION.
5. POWER AND TELCO UTILITIES SHALL BE ROUTED UNDERGROUND FROM EXISTING RESPECTIVE DEMARCS. FINAL DEMARC LOCATION AND UTILITY ROUTING WILL BE VERIFIED/DETERMINED BY LOCAL UTILITY COMPANIES AND PROPERTY OWNER.
6. THE PROPOSED WIRELESS FACILITY INSTALLATION WILL BE DESIGNED IN ACCORDANCE WITH THE 2003 INTERNATIONAL BUILDING CODE AS MODIFIED BY THE 2009 CONNECTICUT SUPPLEMENT.

VICINITY MAP



SITE DIRECTIONS

FROM: 99 EAST RIVER DRIVE EAST HARTFORD, CONNECTICUT TO: 139 NORTH MAIN STREET WEST HARTFORD, CONNECTICUT

1. START OUT GOING EAST ON EAST RIVER DRIVE TOWARDS DARLIN STREET
2. TURN LEFT TO STAY ON EAST DRIVE
3. TAKE 1ST LEFT ONTO CONNECTICUT BOULEVARD/US-44
4. MERGE ONTO I-84 WEST/US-6 W VIA THE RAMP ON THE LEFT TOWARDS HARTFORD
5. TAKE THE PARK ROAD EXIT 43 TOWARDS WEST HARTFORD CENTER
6. TURN LEFT ONTO SOUTH MAIN STREET
7. END AT 139 NORTH MAIN STREET

PROJECT SUMMARY

SITE NAME: WEST HARTFORD WEST
SITE ADDRESS: 139 NORTH MAIN STREET WEST HARTFORD, CT 06107
PROPERTY OWNER: AMERICAN SCHOOL FOR THE DEAF 139 NORTH MAIN STREET WEST HARTFORD, CT 06107
APPLICANT/LESSEE: CELCO PARTNERSHIP D.B.A. VERIZON WIRELESS 99 EAST MAIN STREET EAST HARTFORD, CT 06108
VERIZON WIRELESS CONTACT: SANDY CARTER CELCO PARTNERSHIP (860) 803-8219
INTERVENOR/LESSEE: NEW CINGULAR WIRELESS PCS, LLC (AT&T) 500 ENTERPRISE DRIVE, 3A EAST HARTFORD, CT 06108
AT&T CONTACT: MICHELE BRIGGS AT&T WIRELESS (860) 513-7700
ENGINEER: CENTEK ENGINEERING 63-3 NORTH BRANFORD ROAD BRANFORD, CT 06405
ARCHITECT: DOUGLAS J. ROBERTS - ARCHITECT 110 WASHINGTON AVENUE FOURTH FLOOR NORTH HAVEN, CT 06475
TOWER COORDINATES: LATITUDE: 41° - 46' - 14.235"
LONGITUDE: 71° - 44' - 58.558"
GROUND ELEVATION 161.2'± A.M.S.L.

COORDINATES AND GROUND ELEVATION BASED ON FAA 1 - A SURVEY CERTIFICATION PREPARED BY MARINEZ COUCH AND ASSOCIATES DATED DECEMBER 12, 2012

Key Plan

Do not scale dimensions from drawings. Site verify all dimensions prior to construction. Report all discrepancies to Architect immediately. This drawing is to be read in conjunction with all relevant documents and drawings.

| Rev. | Description | Date |
|------|---|------------|
| 1 | D&M SUBMISSION (Not For Construction) | 09.09.2013 |
| 2 | D&M SUBMISSION (Client Review) | 10.09.2013 |
| 3 | D&M SUBMISSION (Final-Not For Construction) | 10.21.2013 |

Drawn by: Douglas Roberts
Drawn Date: 10.7.2013
Reviewed by: Douglas Roberts
Project No: 2013.02
Scale: 12" = 1'-0"

Sheet Title:
TITLE SHEET

Original drawing is D. Do not scale contents of this drawing.
Sheet Number: Revision:

T-001



Project
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| 1 | D&M SUBMISSION (Not For Construction) | 08.09.2013 |
| 2 | D&M SUBMISSION (Client Review) | 10.03.2013 |
| 3 | D&M SUBMISSION (Final-Not For Construction) | 10.21.2013 |

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Sheet Title:
**DRAWING INDEX AND
ISSUE DATE**

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G-001

CODE REFERENCES

CONNECTICUT STATE BUILDING CODE

2003 INTERNATIONAL BUILDING CODE
2003 INTERNATIONAL PLUMBING CODE
2003 INTERNATIONAL MECHANICAL CODE
2005 NATIONAL ELECTRICAL CODE (NFPA 70)

2005 CONNECTICUT STATE SUPPLEMENT
2009 AMENDMENTS
2011 AMENDMENT

CONNECTICUT STATE FIRE SAFETY CODE

2005 INTERNATIONAL FIRE CODE
2012 AMENDMENT

| SHEET LIST | | |
|--------------|--|------------------|
| SHEET NUMBER | SHEET NAME | SHEET ISSUE DATE |
| T-001 | TITLE SHEET | 10/21/2013 |
| G-001 | DRAWING INDEX AND ISSUE DATE | 10/21/2013 |
| C-101 | PARTIAL SITE SURVEY PLAN | 10/21/2013 |
| C-201 | SITE DEVELOPMENT PLAN AND MISC. SITE DETAILS | 10/21/2013 |
| C-202 | SITE CONSTRUCTION, S&E CONTROL NOTES AND DETAILS | 10/21/2013 |
| C-301 | RF SYSTEM PLAN AND ELEVATIONS | 10/21/2013 |
| L-101 | LANDSCAPE PLAN | 10/21/2013 |
| A-101 | LOWER LEVEL AND FIRST FLOOR PLAN | 10/21/2013 |
| A-102 | SECOND AND THIRD FLOOR PLAN | 10/21/2013 |
| A-103 | LOWER AND UPPER TIER ANTENNA SPACE AND ROOF PLANS | 10/21/2013 |
| A-201 | EAST AND WEST ELEVATIONS | 10/21/2013 |
| A-202 | NORTH AND SOUTH ELEVATIONS | 10/21/2013 |
| A-301 | SECTION AND DETAILS | 10/21/2013 |
| A-302 | SECTION AND DETAILS | 10/21/2013 |
| S-001 | STRUCTURAL NOTES | 10/21/2013 |
| S-101 | FOUNDATION AND FRAMING PLAN | 10/21/2013 |
| S-102 | FRAMING PLANS | 10/21/2013 |
| S-103 | FRAMING PLANS | 10/21/2013 |
| S-104 | FRAMING PLANS | 10/21/2013 |
| S-201 | BUILDING SECTION | 10/21/2013 |
| S-301 | REINFORCED CONCRETE DETAILS AND SCHEDULES | 10/21/2013 |
| S-302 | TYPICAL CONCRETE DETAILS | 10/21/2013 |
| S-401 | TYPICAL STEEL DETAILS | 10/21/2013 |
| S-501 | COLUMN SCHEDULE AND BASE PLATE DETAILS | 10/21/2013 |
| M-001 | MECHANICAL LEGEND AND SCHEDULES | 10/21/2013 |
| MSU-101 | SITE UTILITY PLAN - MECHANICAL | 10/21/2013 |
| M-101 | LOWER LEVEL AND FIRST FLOOR PLANS - MECHANICAL | 10/21/2013 |
| M-102 | SECOND FLOOR AND THIRD FLOOR PLANS - MECHANICAL | 10/21/2013 |
| M-103 | ROOF PLAN - MECHANICAL | 10/21/2013 |
| M-201 | MECHANICAL DETAILS | 10/21/2013 |
| E-001 | ELECTRICAL GENERAL NOTES AND ABBREVIATIONS | 10/21/2013 |
| E-002 | ELECTRICAL LEGEND, NOTES AND SCHEDULES | 10/21/2013 |
| ESU-101 | SITE UTILITY PLAN - ELECTRICAL | 10/21/2013 |
| E-101 | LOWER LEVEL FITOUT PLANS - ELECTRICAL | 10/21/2013 |
| E-102 | FIRST FLOOR FITOUT PLANS - ELECTRICAL | 10/21/2013 |
| E-103 | SECOND FLOOR FITOUT PLANS - ELECTRICAL | 10/21/2013 |
| E-104 | THIRD FLOOR & TIER ANTENNA SPACE FITOUT PLANS - ELECTRICAL | 10/21/2013 |
| E-201 | ELECTRICAL RISER DIAGRAMS | 10/21/2013 |
| E-202 | SCHEMATIC GROUDING RISER DIAGRAM | 10/21/2013 |
| E-301 | ELECTRICAL DETAILS | 10/21/2013 |
| E-302 | ELECTRICAL DETAILS | 10/21/2013 |
| E-303 | EAST ELEVATION | 10/21/2013 |
| E-304 | ELECTRICAL DETAILS | 10/21/2013 |
| E-305 | ELECTRICAL DETAILS | 10/21/2013 |
| E-306 | ELECTRICAL DETAILS | 10/21/2013 |
| E-307 | ELECTRICAL DETAILS | 10/21/2013 |
| E-308 | CABLE TRAY INSTALLATION DETAILS | 10/21/2013 |



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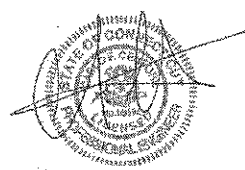
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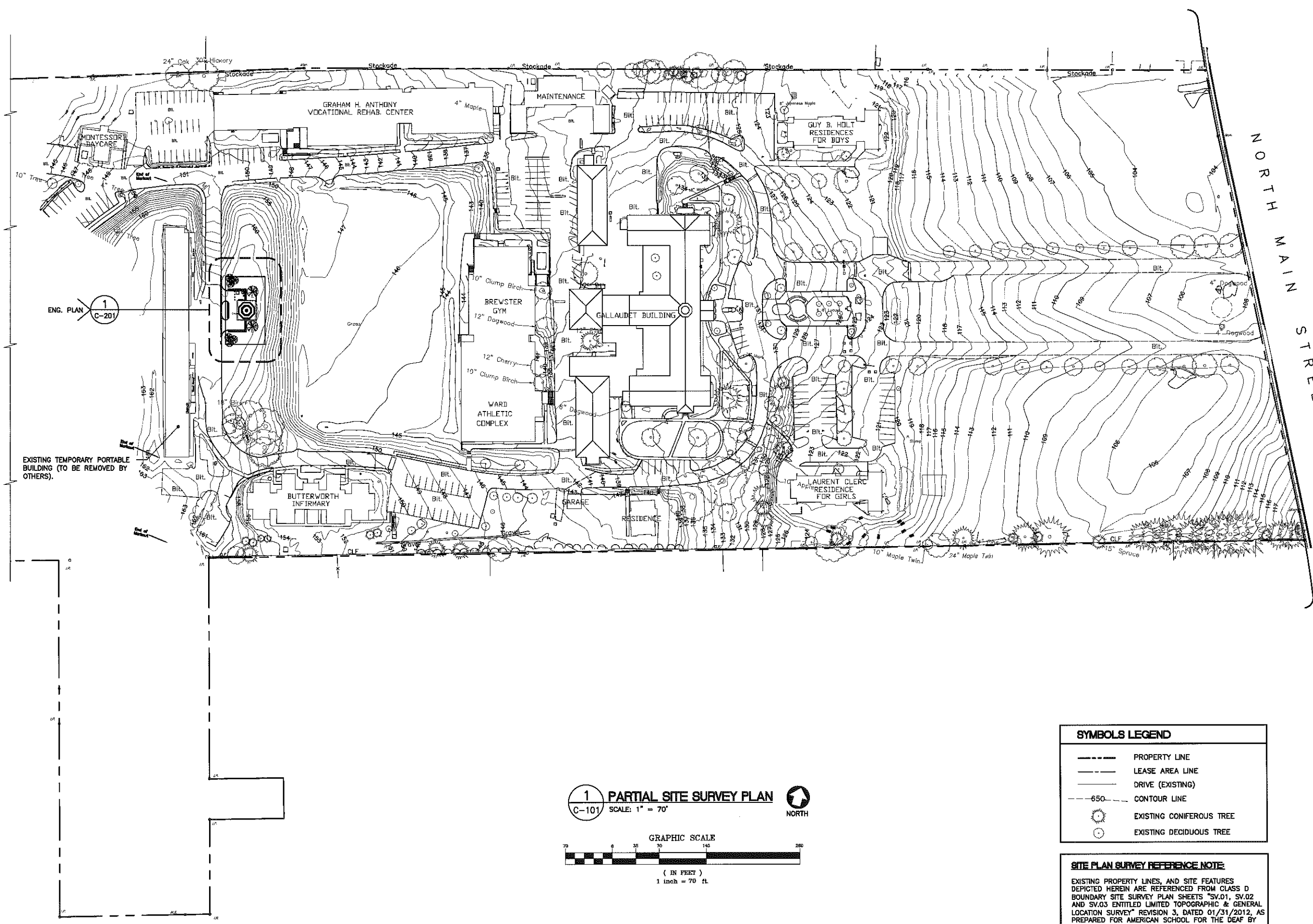
| Rev. | Description | Date |
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| 0 | D&M Submission (Not for Construction) | 07.29.13 |
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Drawn by: DMD
 Drawn Date: 07.29.13
 Reviewed by: CFC
 Project No: 2013.02 (CENTEK Proj No. 12027.00)
 Scale: AS NOTED

**PARTIAL SITE SURVEY
 PLAN**

Original drawing is D. Do not scale contents of this drawing.
 Sheet Number: Revision:

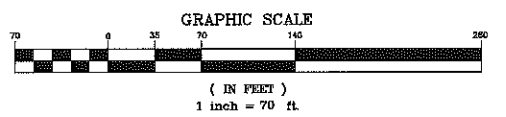
C-101



ENG. PLAN
 1
 C-201

EXISTING TEMPORARY PORTABLE
 BUILDING (TO BE REMOVED BY
 OTHERS).

1 PARTIAL SITE SURVEY PLAN
 C-101 SCALE: 1" = 70'



SYMBOLS LEGEND

| | |
|-------|--------------------------|
| --- | PROPERTY LINE |
| - - - | LEASE AREA LINE |
| --- | DRIVE (EXISTING) |
| -550- | CONTOUR LINE |
| ☉ | EXISTING CONIFEROUS TREE |
| ○ | EXISTING DECIDUOUS TREE |

SITE PLAN SURVEY REFERENCE NOTE:
 EXISTING PROPERTY LINES, AND SITE FEATURES
 DEPICTED HEREIN ARE REFERENCED FROM CLASS D
 BOUNDARY SITE SURVEY PLAN SHEETS "SV.01, SV.02
 AND SV.03 ENTITLED LIMITED TOPOGRAPHIC & GENERAL
 LOCATION SURVEY" REVISION 3, DATED 01/31/2012, AS
 PREPARED FOR AMERICAN SCHOOL FOR THE DEAF BY
 PURCELL ASSOCIATES.



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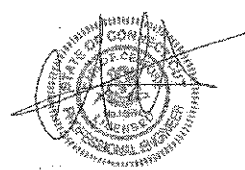
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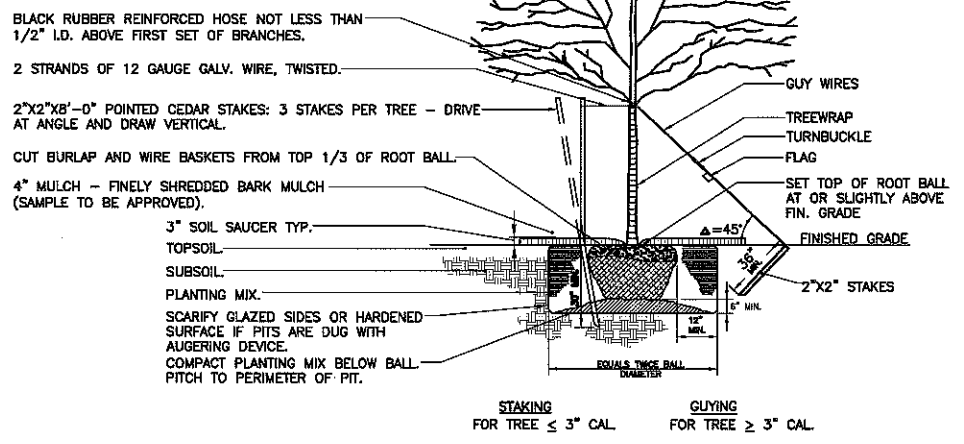
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Sheet Title:
**SITE DEVELOPMENT
 PLAN AND MISC. SITE
 DETAILS**

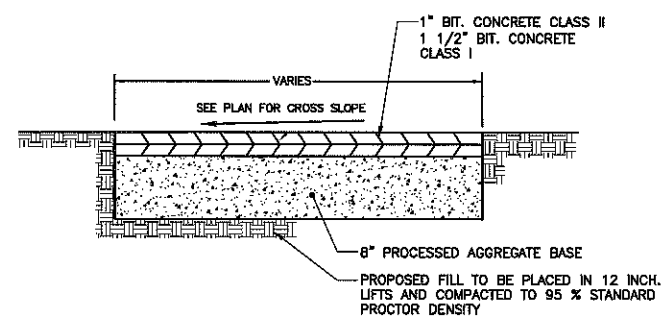
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C-201

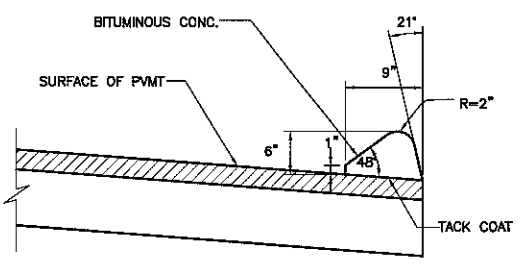
PRUNING SHALL BE IN ACCORDANCE WITH APPROVED HORTICULTURAL STANDARDS IN ORDER TO PRESERVE THE NATURAL FORM OF THE SPECIFIC PLANTS. IF APPLICABLE & APPROVED BY THE LANDSCAPE ARCHITECT, ONE-FOURTH TO ONE-THIRD OF THE WOOD SHALL BE REMOVED BY THINNING OUT TO BALANCE ROOT LOSS DUE TO TRANSPLANTING.



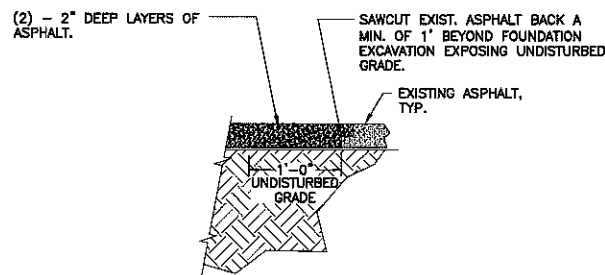
2 TREE PLANTING DETAIL
 C-201 NOT TO SCALE



3 BITUMINOUS CONCRETE DRIVEWAY DETAIL
 C-201 NOT TO SCALE



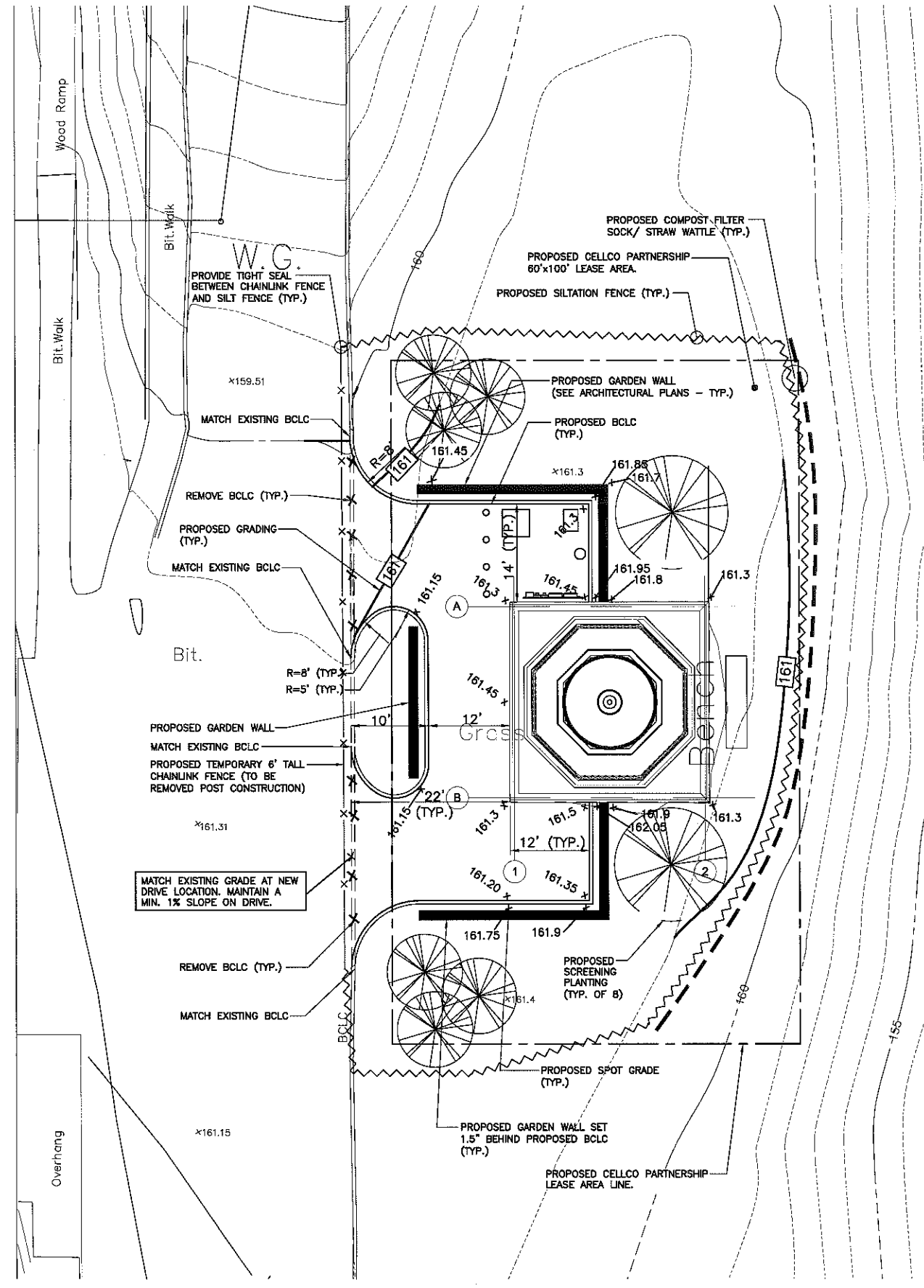
4 BITUMINOUS CONCRETE DRIVEWAY DETAIL
 C-201 NOT TO SCALE



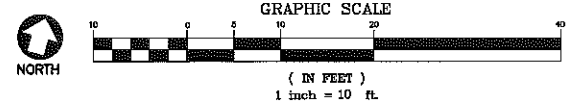
5 TYP. ASPHALT PATCH DETAIL
 C-201 SCALE: 1/2" = 1'-0"

SYMBOLS LEGEND

| | |
|-----|--------------------------------------|
| --- | LEASE AREA LINE |
| --- | DRIVE (EXISTING) |
| --- | ACCESS DRIVE (PROPOSED) |
| --- | CONTOUR LINE |
| --- | GRADING LINE |
| --- | COMPOST FILTER SOCK/ STRAW WATTLE |
| --- | SILTATION FENCE |



1 SITE ENGINEERING PLAN
 C-201 SCALE: 1"=10'



GENERAL CONSTRUCTION / PRE-CONSTRUCTION NOTES

1. PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION ACTIVITIES, A MANDATORY ON-SITE PRE-CONSTRUCTION MEETING SHALL BE CONDUCTED WITH THE VERIZON WIRELESS CONSTRUCTION MANAGER, CONTRACTOR'S CONSTRUCTION MANAGER, THE PROJECT EROSION AND SEDIMENTATION CONTROL/ENVIRONMENTAL MONITOR AND THE ENGINEER OF RECORD.
2. THE SOUTHERN PROPERTY LINE ADJACENT TO THE PROPOSED ACCESS DRIVE IS STAKED IN FIELD. THE CONTRACTOR SHALL MAINTAIN THE PROPERTY LINE STAKE LOCATIONS DURING THE ENTIRE PERIOD OF CONSTRUCTION. ALL CONSTRUCTION ACTIVITIES SHALL BE CONDUCTED ON THE SUBJECT PROPERTY.

GENERAL CONSTRUCTION SEQUENCE

THIS IS A GENERAL CONSTRUCTION SEQUENCE OUTLINE SOME ITEMS OF WHICH MAY NOT APPLY TO PARTICULAR SITES.

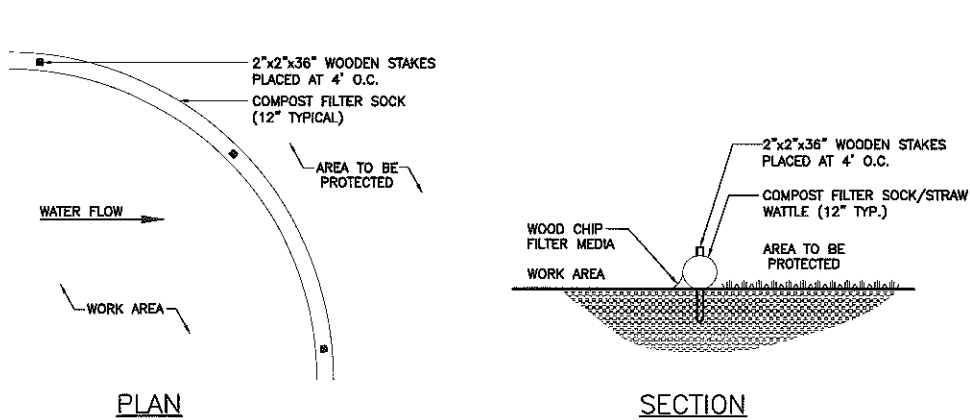
1. CUT AND STUMP AREAS OF PROPOSED CONSTRUCTION.
2. INSTALL TEMPORARY SEDIMENT AND EROSION CONTROL MEASURES AS REQUIRED.
3. REMOVE AND STOCKPILE TOPSOIL. STOCKPILE SHALL BE SEEDDED WITH WINTER RYE OR ANNUAL RYE TO PREVENT EROSION.
4. CONSTRUCT CLOSED DRAINAGE SYSTEM. PRECEPT CULVERT INLETS AND CATCH BASINS WITH SEDIMENTATION BARRIERS.
5. CONSTRUCT ROADWAYS AND PERFORM SITE GRADING, PLACING STRAW BALES AND SILTATION FENCES AS REQUIRED TO CONTROL SOIL EROSION.
6. INSTALL UNDERGROUND UTILITIES.
7. BEGIN TEMPORARY AND PERMANENT SEEDING AND MULCHING. ALL CUT AND FILL SLOPES SHALL BE SEEDDED OR MULCHED IMMEDIATELY AFTER THEIR CONSTRUCTION. NO AREA SHALL BE LEFT UNSTABILIZED FOR A TIME PERIOD OF MORE THAN 30 DAYS.
8. DAILY, OR AS REQUIRED, CONSTRUCT, INSPECT, AND IF NECESSARY, RECONSTRUCT TEMPORARY BERMS, DRAINS, DITCHES, SILT FENCES AND SEDIMENT TRAPS INCLUDING MULCHING AND SEEDING.
9. BEGIN EXCAVATION FOR AND CONSTRUCTION OF TOWERS AND PLATFORMS.
10. FINISH PAVING ALL ROADWAYS, DRIVES, AND PARKING AREAS.
11. COMPLETE PERMANENT SEEDING AND LANDSCAPING. AREA OF DISTURBED SOIL SHALL BE SOWN WITH NEW ENGLAND CONSERVATION/WILDLIFE SEED MIX (NEW ENGLAND WETLAND PLANTS, INC. (413) 548-8000, OR APPROVED EQUIVALENT) AT THE MANUFACTURER'S RECOMMENDED SEEDING RATE.
12. NO FLOW SHALL BE DIVERTED TO ANY WETLANDS UNTIL A HEALTHY STAND OF GRASS HAS BEEN ESTABLISHED IN REGARDED AREAS.
13. AFTER GRASS HAS BEEN FULLY GERMINATED IN ALL SEEDDED AREAS, REMOVE ALL TEMPORARY EROSION CONTROL MEASURES.

CONSTRUCTION SPECIFICATIONS - COMPOST FILTER SOCK/STRAW WATTLE

1. ALL MATERIAL TO MEET MANUFACTURER'S SPECIFICATION AND DESIGN CRITERIA FOR COMPOST FILTER SOCK/STRAW WATTLE.
2. CLEAR AREA FOR SOCK/WATTLE INSTALLATION OF ALL LOOSE VEGETATION TO ENSURE CLOSE CONTACT WITH SOIL. NO TRENCHING IS REQUIRED.
3. STAKE SOCK/WATTLE SECURELY TO GROUND BY DRIVING A 2"x2"x36" WOODEN STAKE EVERY 4' WITH 3-4" OF THE STAKE REMAINING ABOVE THE SOCK/WATTLE.
4. WHERE SOCKS/WATTLES ARE INSTALLED END-TO-END, THEY SHALL BE BUTTED TIGHTLY TOGETHER SO THEY DO NOT ALLOW WATER/SEDIMENTS TO FLOW BETWEEN THEM.

MAINTENANCE - COMPOST FILTER SOCK/STRAW WATTLE

1. SOCK/WATTLE SHALL BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. ANY REPAIRS THAT ARE REQUIRED SHALL BE MADE IMMEDIATELY.
2. IF THE FABRIC ON SOCK/WATTLE SHOULD DECOMPOSE OR BECOME INEFFECTIVE DURING THE EXPECTED LIFE OF THE FENCE, THE FABRIC SHALL BE REPLACED PROMPTLY.
3. SEDIMENT SHOULD BE INSPECTED AFTER EVERY STORM EVENT. THE DEPOSITS SHOULD BE REMOVED WHEN THEY REACHED APPROXIMATELY ONE-HALF THE HEIGHT OF THE BARRIER.
4. SEDIMENT DEPOSITS THAT ARE REMOVED OR LEFT IN PLACE AFTER THE FABRIC HAS BEEN REMOVED SHALL BE GRADED TO CONFORM WITH THE EXISTING TOPOGRAPHY AND VEGETATED.



PLAN

SECTION

1 TYP. COMPOST FILTER SOCK/ STRAW WATTLE DETAIL
NOT TO SCALE

SOIL EROSION AND SEDIMENT CONTROL SEQUENCE

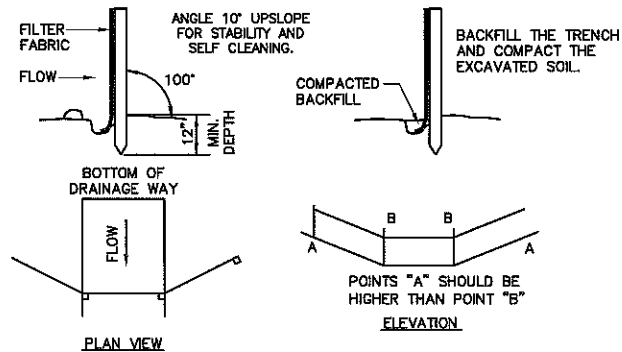
1. ALL SOIL EROSION AND SEDIMENT CONTROL MEASURES, SUCH AS CONSTRUCTION ENTRANCE / ANTI TRACKING PAD, SILTATION FENCE, AND SILTATION FENCE / STRAW BALE SHALL BE IN PLACE PRIOR TO ANY GRADING ACTIVITY. INSTALLATION OF PROPOSED STRUCTURES OR UTILITIES. MEASURES SHALL BE LEFT IN PLACE AND MAINTAINED UNTIL CONSTRUCTION IS COMPLETED AND/OR AREA IS STABILIZED.
2. THE ENTRANCE TO THE PROJECT SITE IS TO BE PROTECTED BY STONE ANTI TRACKING PAD OF ASTM C-33, SIZE NO. 2 OR 3, OR D.O.T. 2" CRUSHED GRAVEL. THE STONE ANTI TRACKING PAD IS TO BE MAINTAINED AT ALL TIMES DURING THE CONSTRUCTION PERIOD.
3. LAND DISTURBANCE WILL BE KEPT TO A MINIMUM AND RESTABILIZATIONS WILL BE SCHEDULED AS SOON AS PRACTICAL.
4. ALL SOIL EROSION AND SEDIMENT CONTROL WORK SHALL BE DONE IN ACCORDANCE WITH THE CONNECTICUT GUIDELINES FOR EROSION AND SEDIMENT CONTROL INCLUDING THE LATEST DATE FROM THE COUNCIL ON SOIL AND WATER CONSERVATION.
5. ANY ADDITIONAL EROSION/SEDIMENTATION CONTROL DEEMED NECESSARY BY TOWN STAFF DURING CONSTRUCTION, SHALL BE INSTALLED BY THE DEVELOPER. IN ADDITION, THE DEVELOPER SHALL BE RESPONSIBLE FOR THE REPAIR/REPLACEMENT/MAINTENANCE OF ALL EROSION CONTROL MEASURES UNTIL ALL DISTURBED AREAS ARE STABILIZED TO THE SATISFACTION OF THE TOWN STAFF.
6. IN ALL AREAS, REMOVAL OF TREES, BUSHES AND OTHER VEGETATION AS WELL AS DISTURBANCE OF THE SOIL IS TO BE KEPT TO AN ABSOLUTE MINIMUM WHILE ALLOWING PROPER DEVELOPMENT OF THE SITE. DURING CONSTRUCTION, EXPOSE AS SMALL AN AREA OF SOIL AS POSSIBLE FOR AS SHORT A TIME AS POSSIBLE.
7. SILTATION FENCE SHALL BE PLACED AS INDICATED BEFORE A CUT SLOPE HAS BEEN CREATED. SEDIMENT DEPOSITS SHOULD BE PERIODICALLY REMOVED FROM THE UPSTREAM SIDES OF SILTATION FENCE. THIS MATERIAL IS TO BE SPREAD AND STABILIZED IN AREAS NOT SUBJECT TO EROSION, OR TO BE USED IN AREAS WHICH ARE NOT TO BE PAVED OR BUILT ON. SILTATION FENCE IS TO BE REPLACED AS NECESSARY TO PROVIDE PROPER FILTERING ACTION. THE FENCE IS TO REMAIN IN PLACE AND BE MAINTAINED TO INSURE EFFICIENT SILTATION CONTROL UNTIL ALL AREAS ABOVE THE EROSION CHECKS ARE STABILIZED AND VEGETATION HAS BEEN ESTABLISHED.
8. SWALE DISCHARGE AREA WILL BE PROTECTED WITH RIP RAP SPLASH PAD/ ENERGY DISSIPATOR.
9. ALL FILL AREAS SHALL BE COMPACTED SUFFICIENTLY FOR THEIR INTENDED PURPOSE AND AS REQUIRED TO REDUCE SLIPPING, EROSION OR EXCESS SATURATION.
10. THE SOIL SHALL NOT BE PLACED WHILE IN A FROZEN OR MUDDY CONDITION, WHEN THE SUBGRADE IS EXCESSIVELY WET, OR IN A CONDITION THAT MAY OTHERWISE BE DETRIMENTAL TO PROPER GRADING OR PROPOSED SODDING OR SEEDING.
11. AFTER CONSTRUCTION IS COMPLETE AND GROUND IS STABLE, REMOVE SILTS IN THE RIP RAP ENERGY DISSIPATORS. REMOVE OTHER EROSION AND SEDIMENT DEVICES.

CONSTRUCTION SPECIFICATIONS - SILT FENCE

1. THE GEOTEXTILE FABRIC SHALL MEET THE DESIGN CRITERIA FOR SILT FENCES.
2. THE FABRIC SHALL BE EMBEDDED A MINIMUM OF 8 INCHES INTO THE GROUND AND THE SOIL COMPACTED OVER THE EMBEDDED FABRIC.
3. WOVEN WIRE FENCE SHALL BE FASTENED SECURELY TO THE FENCE POSTS WITH WIRE TIES OR STAPLES.
4. FILTER CLOTH SHALL BE FASTENED SECURELY TO THE WOVEN WIRE FENCE WITH TIES SPACED EVERY 24 INCHES AT THE TOP, MID-SECTION AND BOTTOM.
5. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER, THEY SHALL BE OVERLAPPED BY 6 INCHES, FOLDED, AND STAPLED.
6. FENCE POSTS SHALL BE A MINIMUM OF 36 INCHES LONG AND DRIVEN A MINIMUM OF 16 INCHES INTO THE GROUND. WOOD POSTS SHALL BE OF SOUND QUALITY HARDWOOD AND SHALL HAVE A MINIMUM CROSS SECTIONAL AREA OF 3.0 SQUARE INCHES.
7. MAINTENANCE SHALL BE PERFORMED AS NEEDED TO PREVENT BUILD UP IN THE SILT FENCE DUE TO DEPOSITION OF SEDIMENT.

MAINTENANCE - SILT FENCE

1. SILT FENCES SHALL BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. ANY REPAIRS THAT ARE REQUIRED SHALL BE MADE IMMEDIATELY.
2. IF THE FABRIC ON A SILT FENCE SHOULD DECOMPOSE OR BECOME INEFFECTIVE DURING THE EXPECTED LIFE OF THE FENCE, THE FABRIC SHALL BE REPLACED PROMPTLY.
3. SEDIMENT SHOULD BE INSPECTED AFTER EVERY STORM EVENT. THE DEPOSITS SHOULD BE REMOVED WHEN THEY REACHED APPROXIMATELY ONE-HALF THE HEIGHT OF THE BARRIER.
4. SEDIMENT DEPOSITS THAT ARE REMOVED OR LEFT IN PLACE AFTER THE FABRIC HAS BEEN REMOVED SHALL BE GRADED TO CONFORM WITH THE EXISTING TOPOGRAPHY AND VEGETATED.



SOURCE: U.S. DEPARTMENT OF AGRICULTURE, SOIL CONSERVATION SERVICE, STORRS, CONNECTICUT

2 PLACEMENT AND CONSTRUCTION OF SILTATION FENCE
NOT TO SCALE

EASTERN BOX TURTLE PROTECTION PROGRAM

THE CONSTRUCTION AREA IS LOCATED IN PROXIMITY TO EASTERN BOX TURTLE (TERRAPENE C. CAROLINA) HABITAT, A STATE SPECIAL CONCERN SPECIES. THE FOLLOWING PROTECTIVE MEASURES WILL AVOID UNINTENTIONAL MORTALITY TO EASTERN BOX TURTLE AS A RESULT OF CONSTRUCTION ACTIVITIES FOR THE SITE IMPROVEMENTS PROPOSED. WITH ADHERENCE TO THIS EASTERN BOX TURTLE PROTECTION PROGRAM, THE PROPOSED DEVELOPMENT AT THIS PROPERTY WILL NOT HAVE AN ADVERSE EFFECT ON THIS RARE SPECIES.

IT IS OF THE UTMOST IMPORTANCE THAT THE CONTRACTOR COMPLIES WITH THE REQUIREMENTS FOR THE INSTALLATION OF PROTECTIVE MEASURES AND THE EDUCATION OF EMPLOYEES AND SUBCONTRACTORS PERFORMING WORK ON THE PROJECT SITE IF WORK WILL OCCUR DURING THE EASTERN BOX TURTLE'S ACTIVE PERIOD (APRIL 1 TO NOVEMBER 1). ALL-POINTS TECHNOLOGY CORPORATION, P.C. ("APT") WILL SERVE AS THE ENVIRONMENTAL MONITOR FOR THIS PROJECT TO ENSURE THAT THE EASTERN BOX TURTLE PROTECTION MEASURES ARE IMPLEMENTED PROPERLY. THE CONTRACTOR SHALL CONTACT DEAN GUSTAFSON, SENIOR WETLAND SCIENTIST AT APT, AT LEAST 5 BUSINESS DAYS PRIOR TO THE PRE-CONSTRUCTION MEETING. MR. GUSTAFSON CAN BE REACHED AT (860) 984-9515 AND AT DGUSTAFSON@ALLPOINTSTECH.COM.

THE PROPOSED EASTERN BOX TURTLE PROTECTION PROGRAM CONSISTS OF SEVERAL COMPONENTS: ISOLATION OF THE PROJECT PERIMETER; PERIODIC INSPECTION AND MAINTENANCE OF ISOLATION STRUCTURES; TURTLE SWEEPS; EDUCATION OF ALL CONTRACTORS AND SUB-CONTRACTORS PRIOR TO INITIATION OF WORK ON THE SITE; PROTECTIVE MEASURES; AND, REPORTING.

1. ISOLATION MEASURES

- a. INSTALLATION OF CONVENTIONAL SILT FENCING, WHICH WILL ALSO SERVE AS AN ISOLATION OF THE WORK ZONE FROM SURROUNDING AREAS AND IS REQUIRED FOR EROSION CONTROL COMPLIANCE, SHALL BE PERFORMED BY THE CONTRACTOR FOLLOWING CLEARING ACTIVITIES AND PRIOR TO ANY EARTHWORK. APT WILL INSPECT THE WORK ZONE AREA PRIOR TO AND FOLLOWING EROSION CONTROL BARRIER INSTALLATION TO ENSURE THE AREA IS FREE OF EASTERN BOX TURTLES.
- b. THE FENCING WILL CONSIST OF CONVENTIONAL EROSION CONTROL WOVEN FABRIC, INSTALLED APPROXIMATELY SIX INCHES BELOW SURFACE GRADE TO BURY THE BOTTOM OF THE SILT FENCE AND STAKED AT SEVEN TO TEN-FOOT INTERVALS USING FOUR-FOOT OAK STAKES OR APPROVED EQUIVALENT. THE CONTRACTOR IS RESPONSIBLE FOR DESIGNATING A QUALIFIED ON-SITE CONSTRUCTION PERSON TO BE RESPONSIBLE FOR THE DAILY INSPECTION AND UPKEEP OF ALL EROSION AND SEDIMENTATION CONTROLS.
- c. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING A RESERVE SUPPLY OF EROSION CONTROLS ON SITE FOR USE AS REQUIRED OR AS DIRECTED BY THE ENVIRONMENTAL MONITOR.
- d. THE ENVIRONMENTAL MONITOR WILL MONITOR THE INSTALLATION AND MAINTENANCE OF EROSION AND SEDIMENTATION CONTROLS THROUGHOUT THE DURATION OF THE PROJECT'S CONSTRUCTION. INSPECTIONS WILL BE PERFORMED AS FOLLOWS: 1) WEEKLY OR 2) BIWEEKLY, WHICH INCLUDES INSPECTIONS FOLLOWING PRECIPITATION EVENTS TOTALING 0.25 INCH OR GREATER.
- e. THE EXTENT OF THE BARRIER FENCING WILL EFFECTIVELY ISOLATE THE CONSTRUCTION AREA, INCLUDING EQUIPMENT AND MATERIAL STORAGE AREAS, FROM POSSIBLE MIGRATING TURTLES. FIELD CONDITIONS MAY REQUIRE THE INSTALLATION OF ADDITIONAL BARRIER FENCING AT THE DIRECTION OF APT.
- f. NO EQUIPMENT, VEHICLES OR CONSTRUCTION MATERIALS SHALL BE STORED OUTSIDE OF BARRIER FENCING.

2. CONTRACTOR EDUCATION:

a. PRIOR TO WORK ON SITE, THE CONTRACTOR SHALL ATTEND AN EDUCATIONAL SESSION AT THE PRE-CONSTRUCTION MEETING WITH APT. THIS ORIENTATION AND EDUCATIONAL SESSION WILL CONSIST OF AN INTRODUCTORY SESSION WITH PHOTOS IDENTIFYING EASTERN BOX TURTLE, STRESSING THE NON-AGGRESSIVE NATURE OF THIS SPECIES AND THE ABSENCE OF NEED TO DESTROY ANIMALS THAT MIGHT BE ENCOUNTERED, HOW TO PROPERLY HANDLE THESE SPECIES IF ENCOUNTERED AND THE NEED TO FOLLOW PROTECTIVE MEASURES AS DESCRIBED IN SECTION 3.

b. ALSO STRESSED IN THE EDUCATION SESSION WILL BE MEANS TO DISCRIMINATE BETWEEN THE SPECIES OF CONCERN AND OTHER NATIVE SPECIES TO AVOID UNNECESSARY, "FALSE ALARMS".

c. THE CONTRACTOR WILL BE PROVIDED WITH CELL PHONE AND EMAIL CONTACTS FOR APT ENVIRONMENTAL MONITOR STAFF TO IMMEDIATELY REPORT ANY ENCOUNTERS WITH EASTERN BOX TURTLE. POSTER MATERIALS WILL BE PROVIDED BY APT TO THE CONTRACTOR FOR POSTING ON THE JOB SITE TO MAINTAIN WORKER AWARENESS, ALONG WITH ANY VISITORS, TO THE SENSITIVE ENVIRONMENTAL NATURE OF THE JOB SITE.

3. PROTECTIVE MEASURES

- a. A THOROUGH COVER SEARCH OF THE CONSTRUCTION AREA WILL BE PERFORMED BY AN APT ENVIRONMENTAL MONITOR FOR EASTERN BOX TURTLE PRIOR TO AND FOLLOWING INSTALLATION OF SILT FENCING TO REMOVE ANY SPECIES FROM THE WORK ZONE PRIOR TO THE INITIATION OF CONSTRUCTION ACTIVITIES.
- b. PRIOR TO THE START OF CONSTRUCTION EACH DAY, THE CONTRACTOR SHALL SEARCH THE ENTIRE WORK AREA FOR EASTERN BOX TURTLE.
- c. IF EASTERN BOX TURTLE ARE FOUND, IT SHOULD BE CAREFULLY GRASPED IN BOTH HANDS, ONE ON EACH SIDE OF THE SHELL, BETWEEN THE TURTLE'S FORELIMBS AND THE HIND LIMBS, AND PLACED JUST OUTSIDE OF THE ISOLATION BARRIER IN THE APPROXIMATE DIRECTION IT WAS HEADING.
- d. SPECIAL CARE SHALL BE TAKEN BY THE CONTRACTOR DURING EARLY MORNING AND EVENING HOURS SO THAT POSSIBLE BASKING OR FORAGING TURTLES ARE NOT HARMED BY CONSTRUCTION ACTIVITIES.
- e. EROSION CONTROL MEASURES WILL BE REMOVED NO LATER THAN 30 DAYS FOLLOWING FINAL SITE STABILIZATION SO AS NOT TO IMPEDE MIGRATION OF TURTLES OR OTHER WILDLIFE.

4. REPORTING

a. BIWEEKLY INSPECTION REPORTS (BRIEF NARRATIVE AND APPLICABLE PHOTOS) WILL BE SUBMITTED BY THE ENVIRONMENTAL MONITOR TO THE CONNECTICUT SITING COUNCIL FOR COMPLIANCE VERIFICATION. ANY OBSERVATIONS OF EASTERN BOX TURTLE WILL BE INCLUDED IN THE REPORTS.

b. FOLLOWING COMPLETION OF THE CONSTRUCTION PROJECT, APT WILL PROVIDE A SUMMARY REPORT TO CTDEEP DOCUMENTING THE MONITORING AND MAINTENANCE OF THE BARRIER FENCE AND OBSERVATIONS OF ANY EASTERN BOX TURTLE ENCOUNTERED.



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Prepared For
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Project No: 2013.02



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| 0 | D&M Submission (Not for Construction) | 07.29.13 |
| 1 | D&M Submission (Not for Construction) | 09.09.13 |
| 2 | D&M Submission (Client Review) | 10.09.13 |
| 3 | D&M Submission (Final-Not for Construction) | 12.21.13 |

Drawn by: DMD
Drawn Date: 07.29.13
Reviewed by: CFC
Project No: 2013.02 (CENTEK Proj No. 12027.00)
Scale: AS NOTED

Sheet Title:
**SITE CONSTRUCTION,
S&E CONTROL NOTES AND
DETAILS**

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Sheet Number: Revision:

C-202



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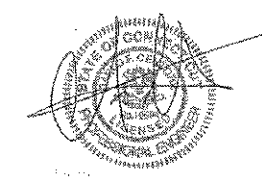
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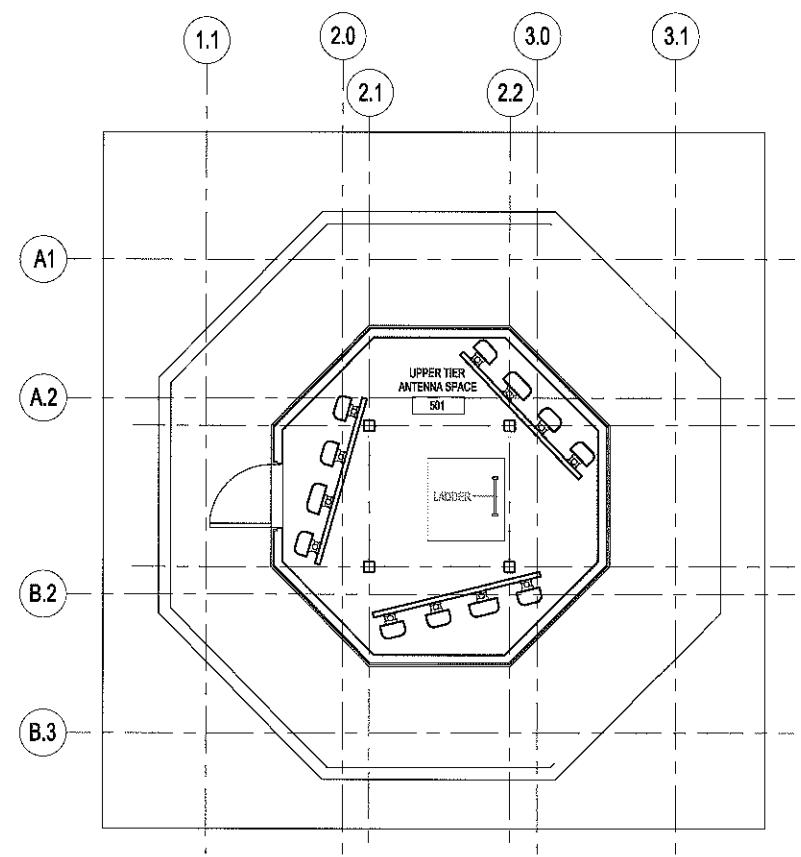
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| 0 | DAM Submission (Not for Construction) | 07.29.13 |
| 1 | DAM Submission (Not for Construction) | 09.09.13 |
| 2 | DAM Submission (Client Review) | 10.08.13 |
| 3 | DAM Submission (Final-Not for Construction) | 10.21.13 |

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 Drawn Date: 07.29.13
 Reviewed by: CFC
 Project No: 2013.02 (CENTEK Proj No. 12027.00)
 Scale: AS NOTED

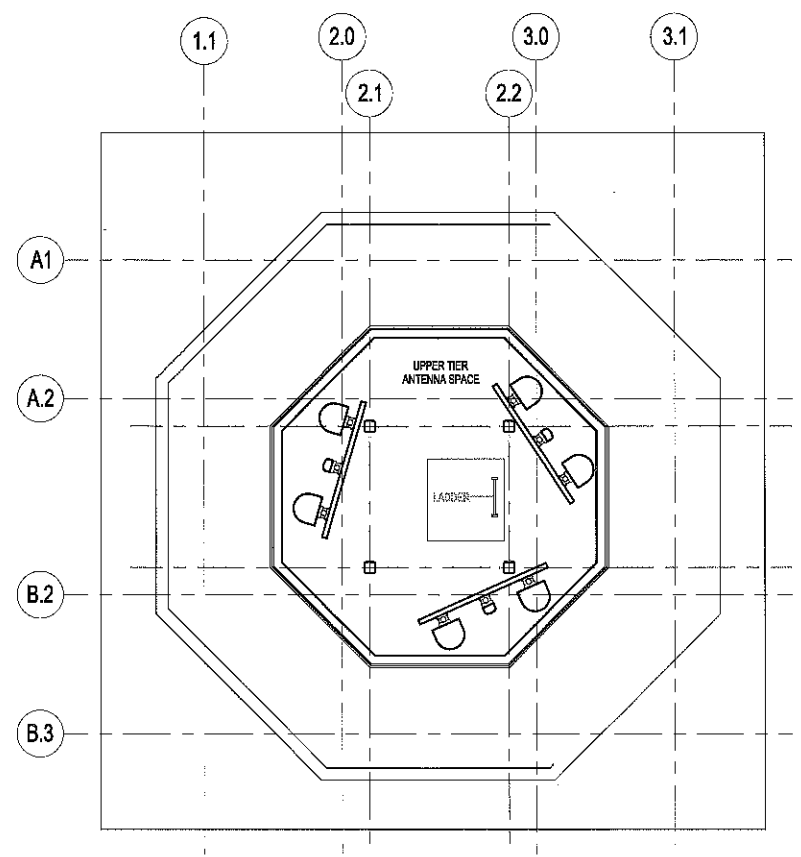
Sheet Title:
RF SYSTEM PLANS AND ELEVATIONS

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 Sheet Number: Revision:

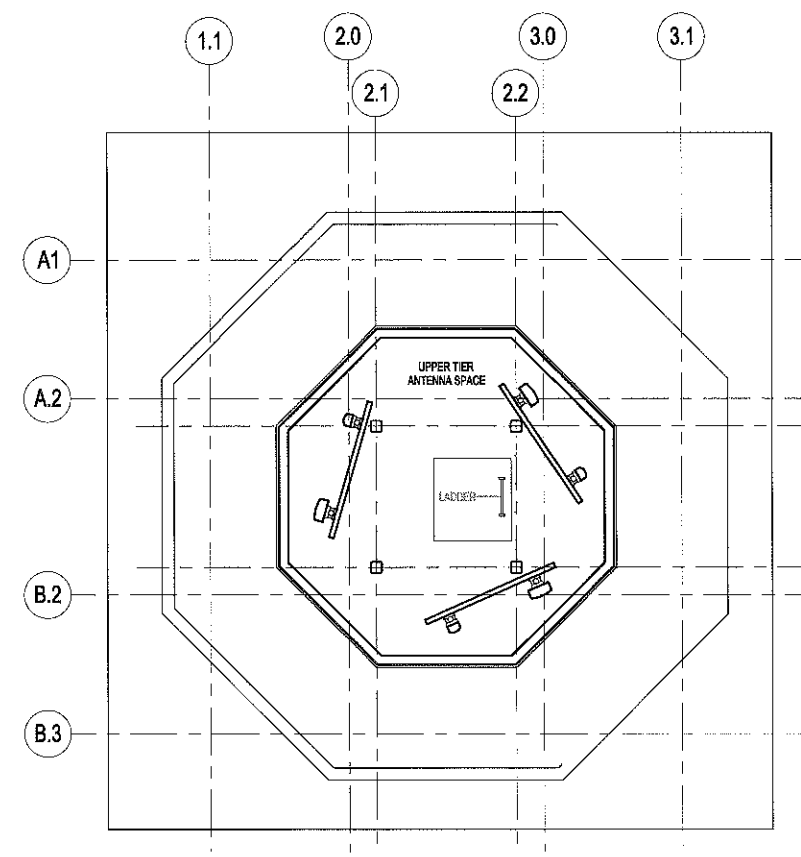
C-301



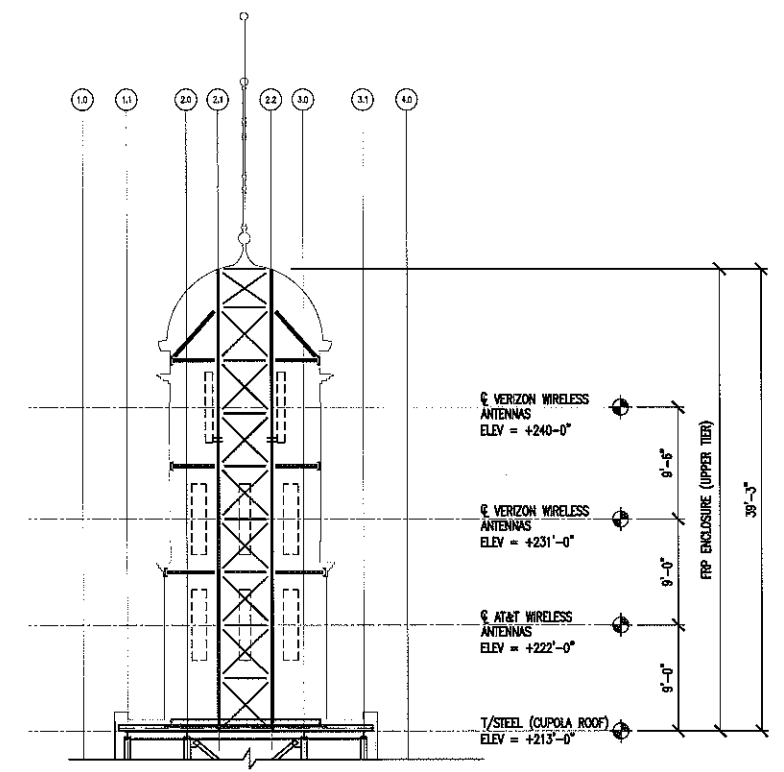
1 AT+T WIRELESS ANTENNA CONFIGURATION
 C-301 SCALE: 1"=10'



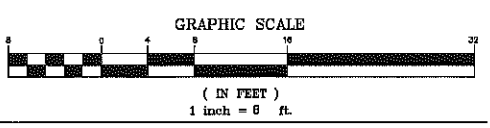
2 VERIZON WIRELESS ANTENNA CONFIGURATION
 ANTENNAS MOUNTED AT ELEVS 231'-0"
 C-301 SCALE: 1/4"=1'-0"



3 VERIZON WIRELESS ANTENNA CONFIGURATION
 ANTENNAS MOUNTED AT ELEVS 240'-0"
 C-301 SCALE: 1/4"=1'-0"



4 SECTION/ELEVATION
 C-301 SCALE: 1/8"=1'-0"





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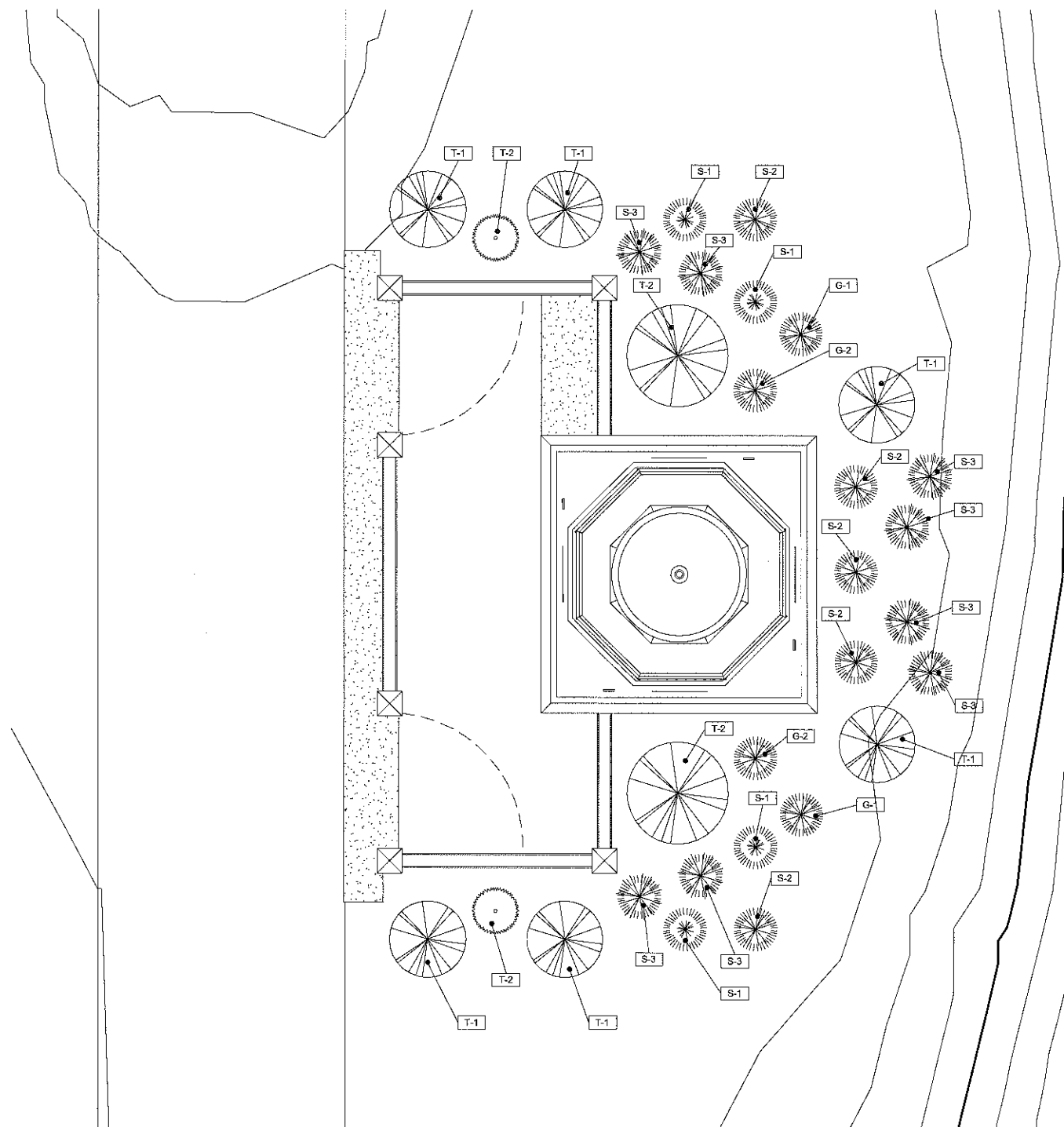
Drawn by: Douglas Roberts
 Drawn Date: 10.7.2013
 Reviewed by: Douglas Roberts
 Project No: 2013.02
 Scale: 1/8" = 1'-0"

Sheet Title:
LANDSCAPE PLAN

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 Sheet Number: Revision:

L-101

| PLANTING SCHEDULE | | |
|-------------------|-----------------------|----------|
| TYPE MARKS | TYPE | COMMENTS |
| T-1 | American Beech - 15' | |
| T-2 | American Beech - 20' | |
| S-1 | Century 1'-10" | |
| S-1 | Century 1'-10" | |
| T-2 | White Pine - 6' | |
| G-1 | Switchgrass (2) 4'-0" | |
| G-2 | Fountain Grass 3'-6" | |
| T-1 | American Beech - 15' | |
| S-2 | Acacia 3'-6" | |
| T-1 | American Beech - 15' | |
| S-2 | Acacia 3'-6" | |
| S-2 | Acacia 3'-6" | |
| T-1 | American Beech - 15' | |
| T-2 | American Beech - 20' | |
| S-1 | Century 1'-10" | |
| S-1 | Century 1'-10" | |
| T-2 | White Pine - 6' | |
| G-1 | Switchgrass (2) 4'-0" | |
| G-2 | Fountain Grass 3'-6" | |
| T-1 | American Beech - 15' | |
| S-2 | Acacia 3'-6" | |
| S-3 | Cedar Shrub 5'-0" | |
| S-3 | Cedar Shrub 5'-0" | |
| S-3 | Cedar Shrub 5'-0" | |
| S-3 | Cedar Shrub 5'-0" | |
| S-3 | Cedar Shrub 5'-0" | |
| S-3 | Cedar Shrub 5'-0" | |
| S-3 | Cedar Shrub 5'-0" | |
| S-3 | Cedar Shrub 5'-0" | |
| S-3 | Cedar Shrub 5'-0" | |



1 LANDSCAPE PLAN
 L-101 SCALE: 1/8" = 1'-0"

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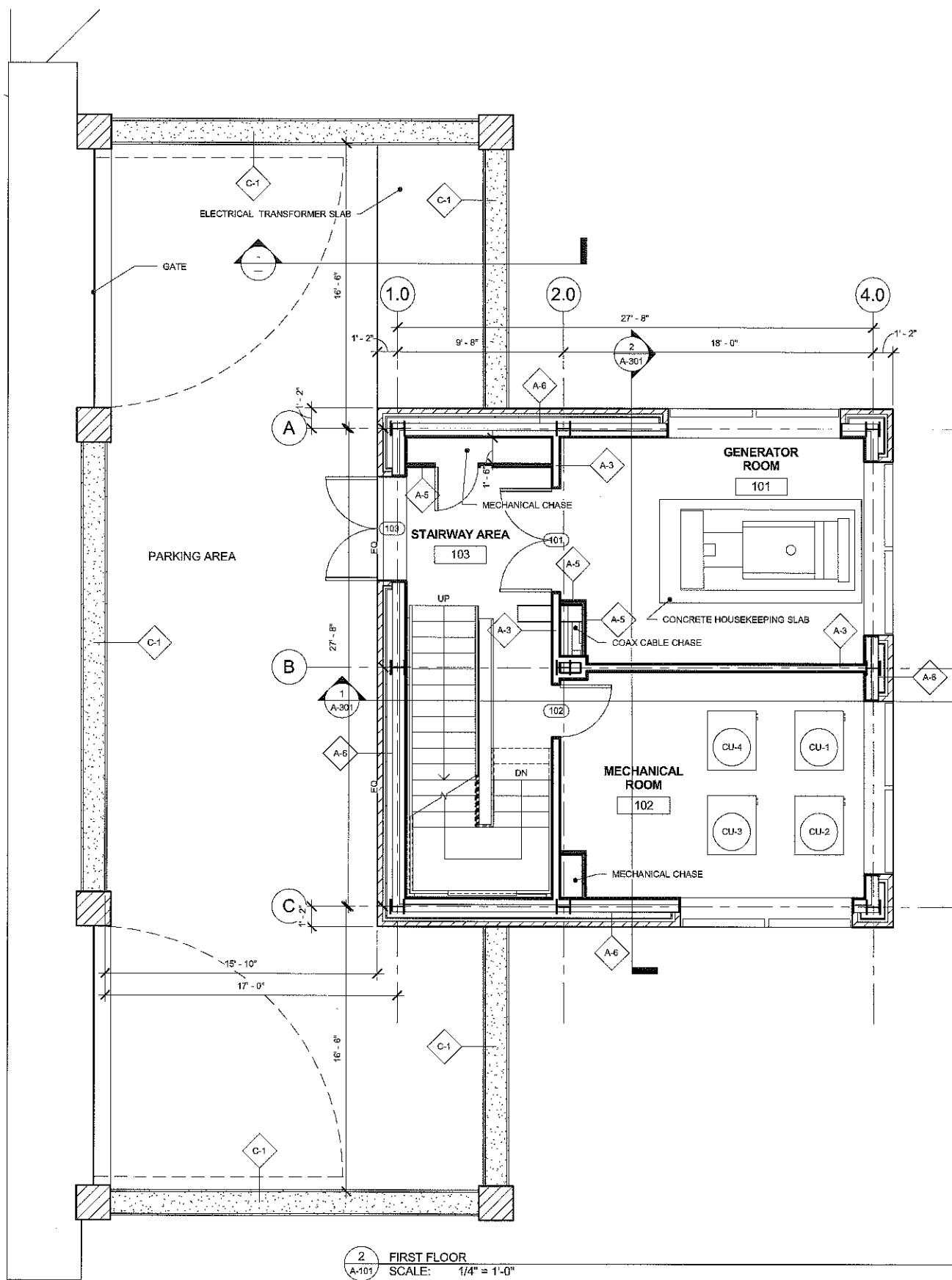
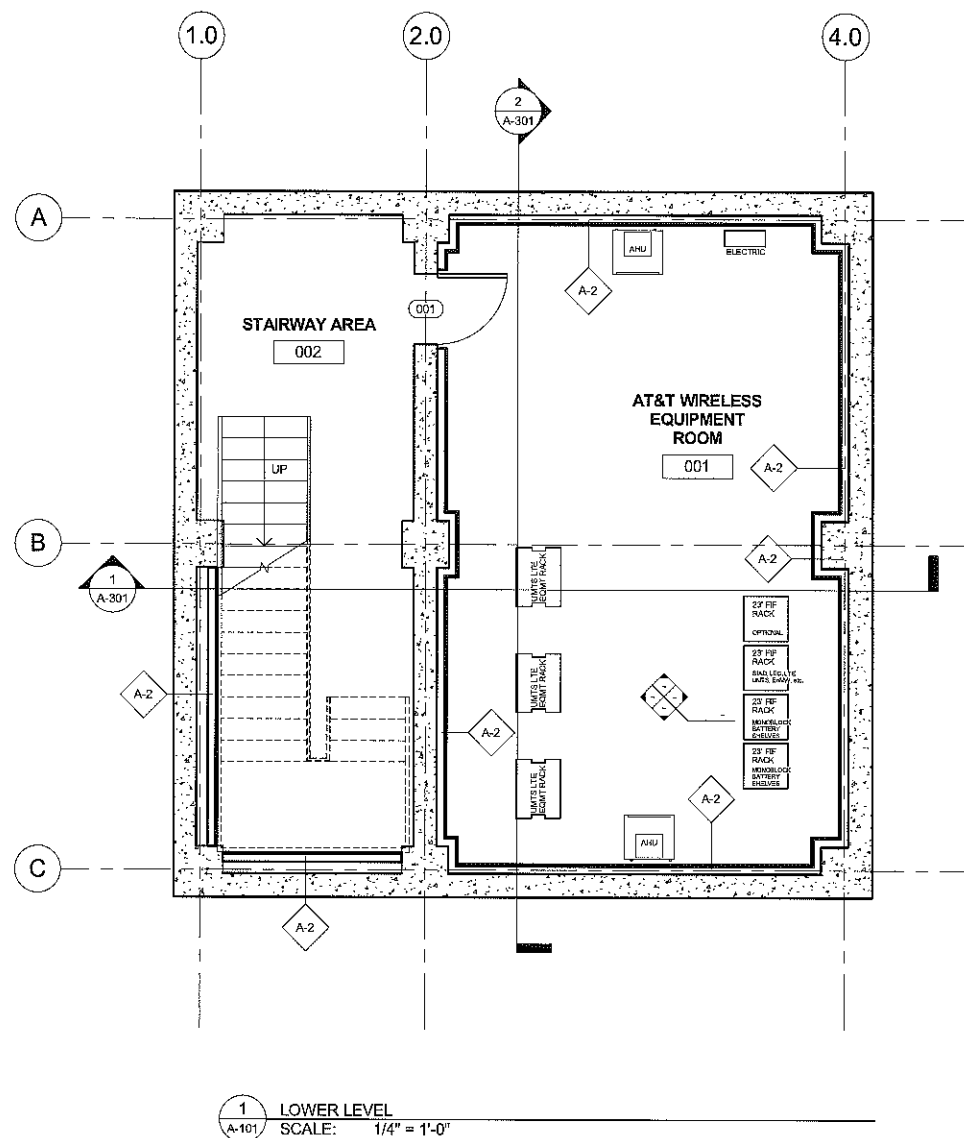
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Drawn by: Douglas Roberts
 Drawn Date: 10.7.2013
 Reviewed by: Douglas Roberts
 Project No: 2013.02
 Scale: 1/4" = 1'-0"

Sheet Title:
**LOWER LEVEL AND
 FIRST FLOOR PLAN**

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A-101





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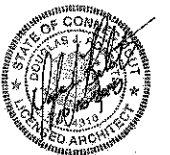
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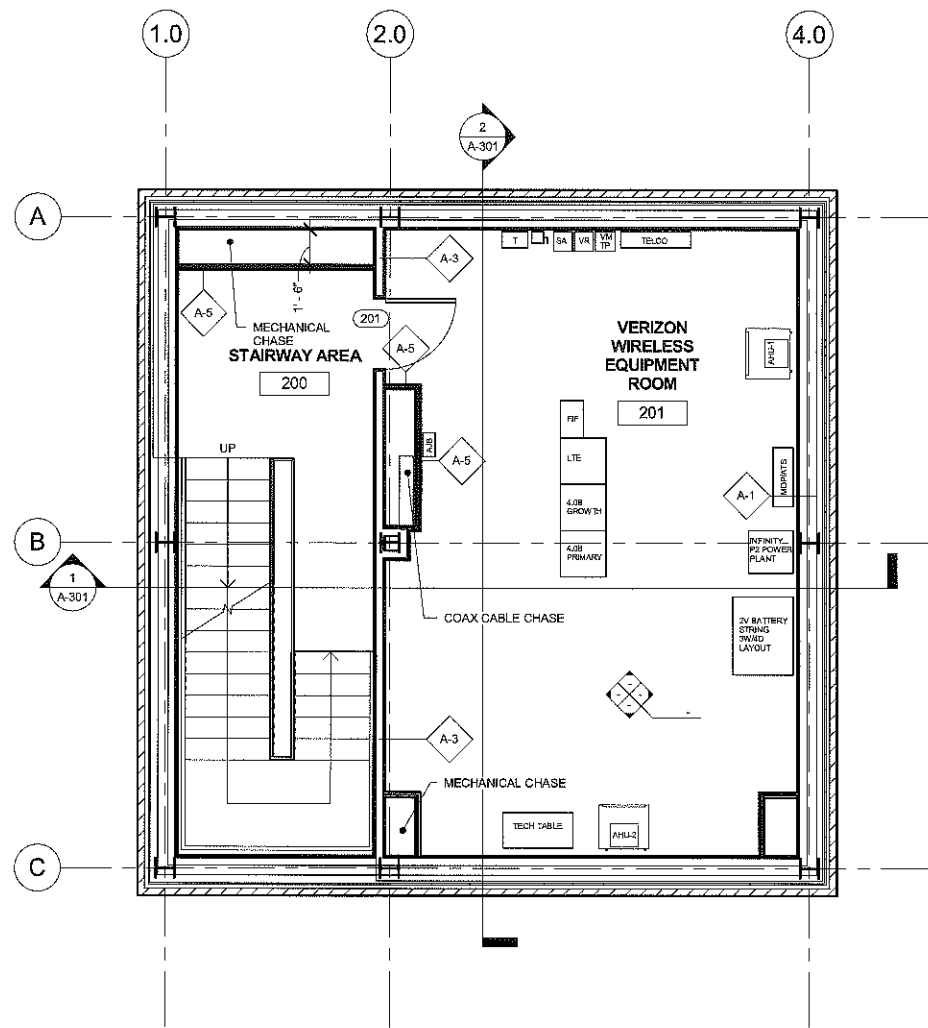
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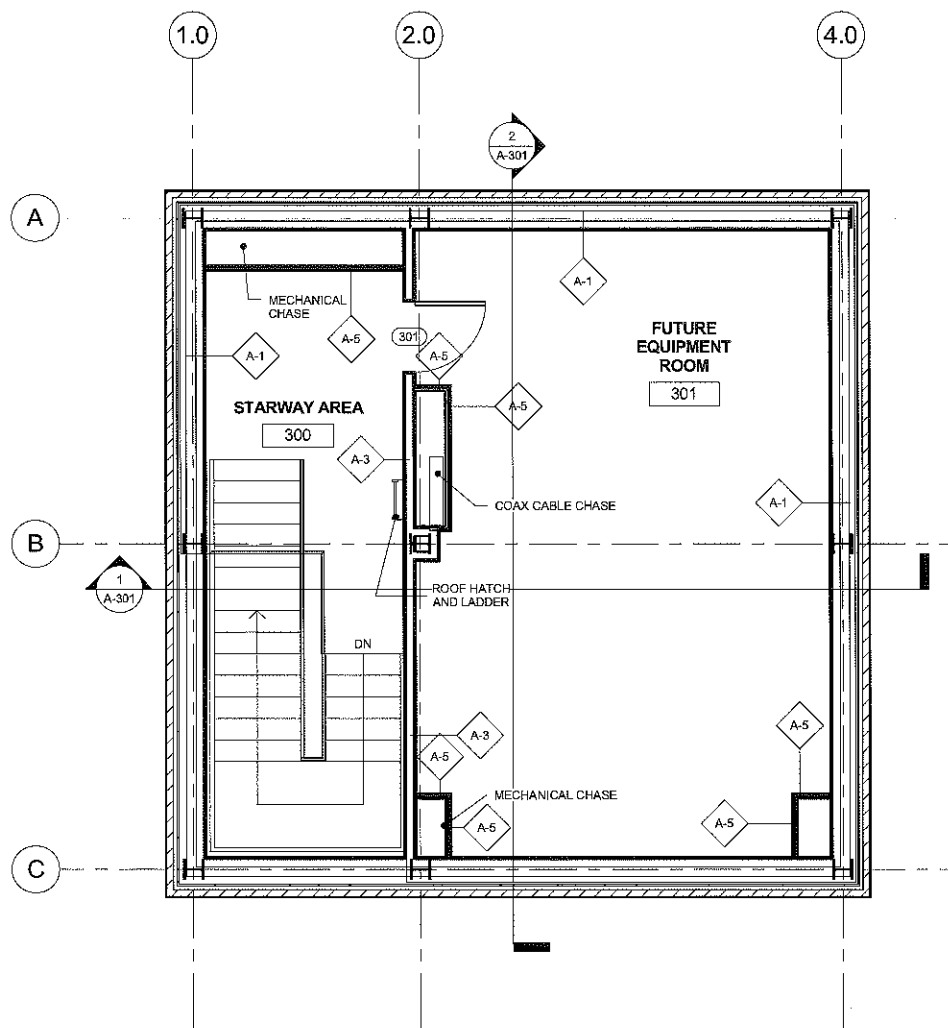
Sheet Title:
SECOND AND THIRD FLOOR PLAN

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 Sheet Number: Revision:

A-102



1 SECOND FLOOR
 A-102 SCALE: 1/4" = 1'-0"



2 THIRD FLOOR
 A-102 SCALE: 1/4" = 1'-0"



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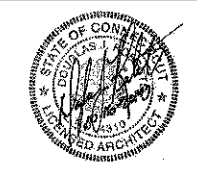
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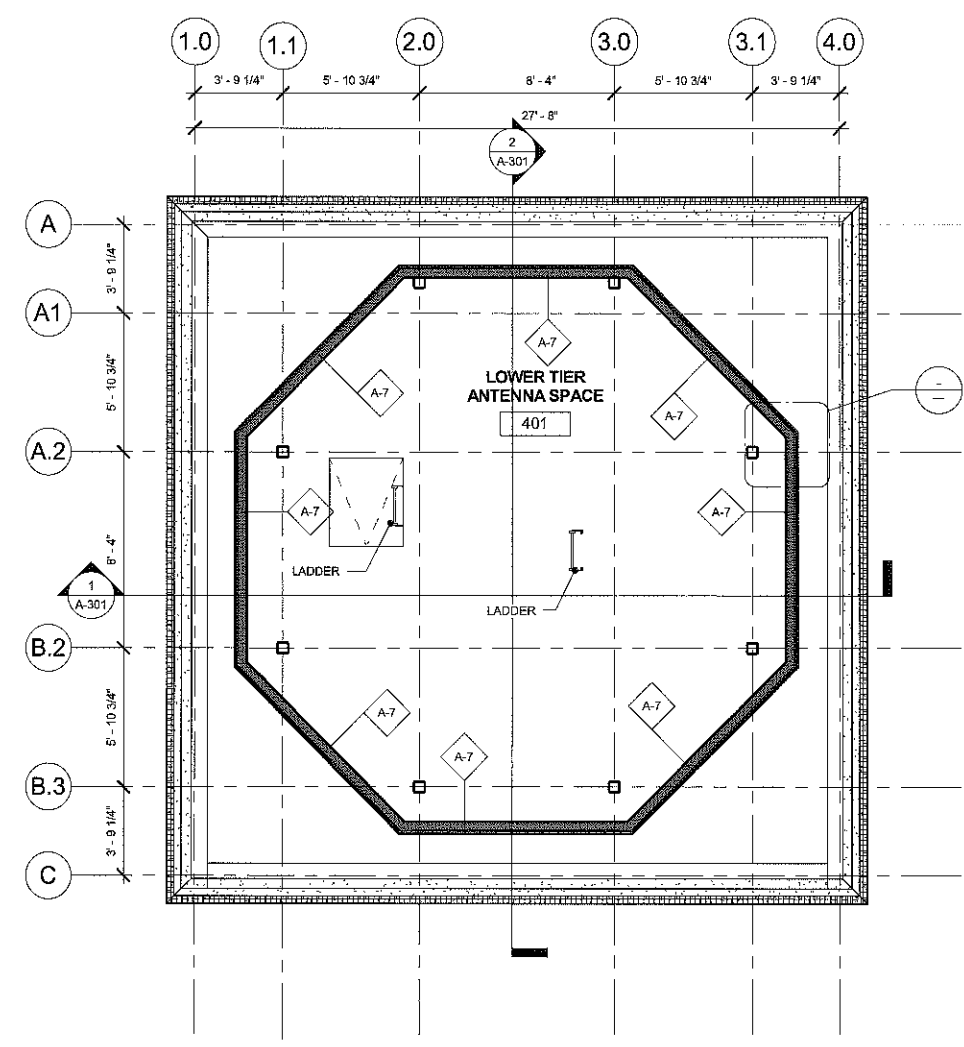
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 Drawn Date: 10.7.2013
 Reviewed by: Douglas Roberts
 Project No: 2013.02
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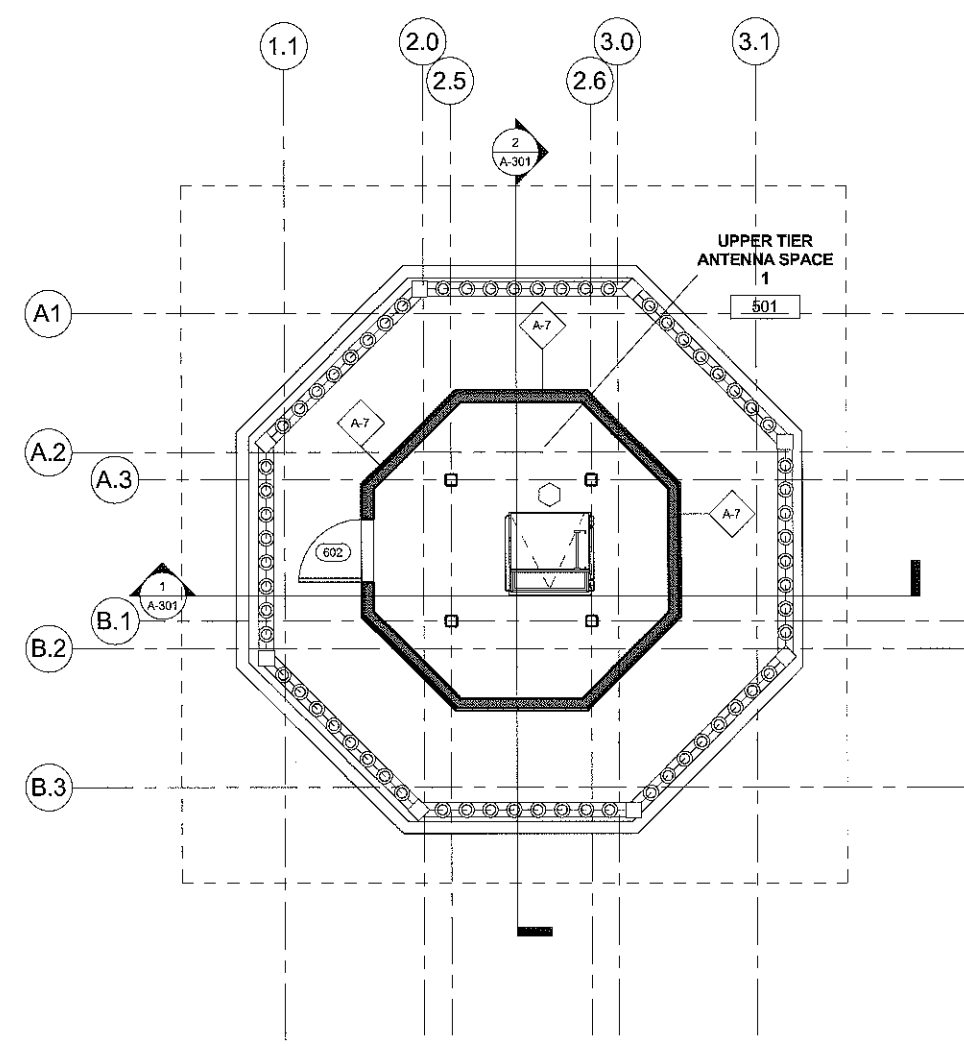
Sheet Title:
**LOWER AND UPPER
 TIER ANTENNA
 SPACE AND ROOF
 PLANS**
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Sheet Number: Revision:

A-103



1 LOWER TIER ANTENNA SPACE / LOW ROOF
 A-103 SCALE: 1/4" = 1'-0"



2 UPPER TIER ANTENNA SPACE / HIGH ROOF PLAN
 A-103 SCALE: 1/4" = 1'-0"



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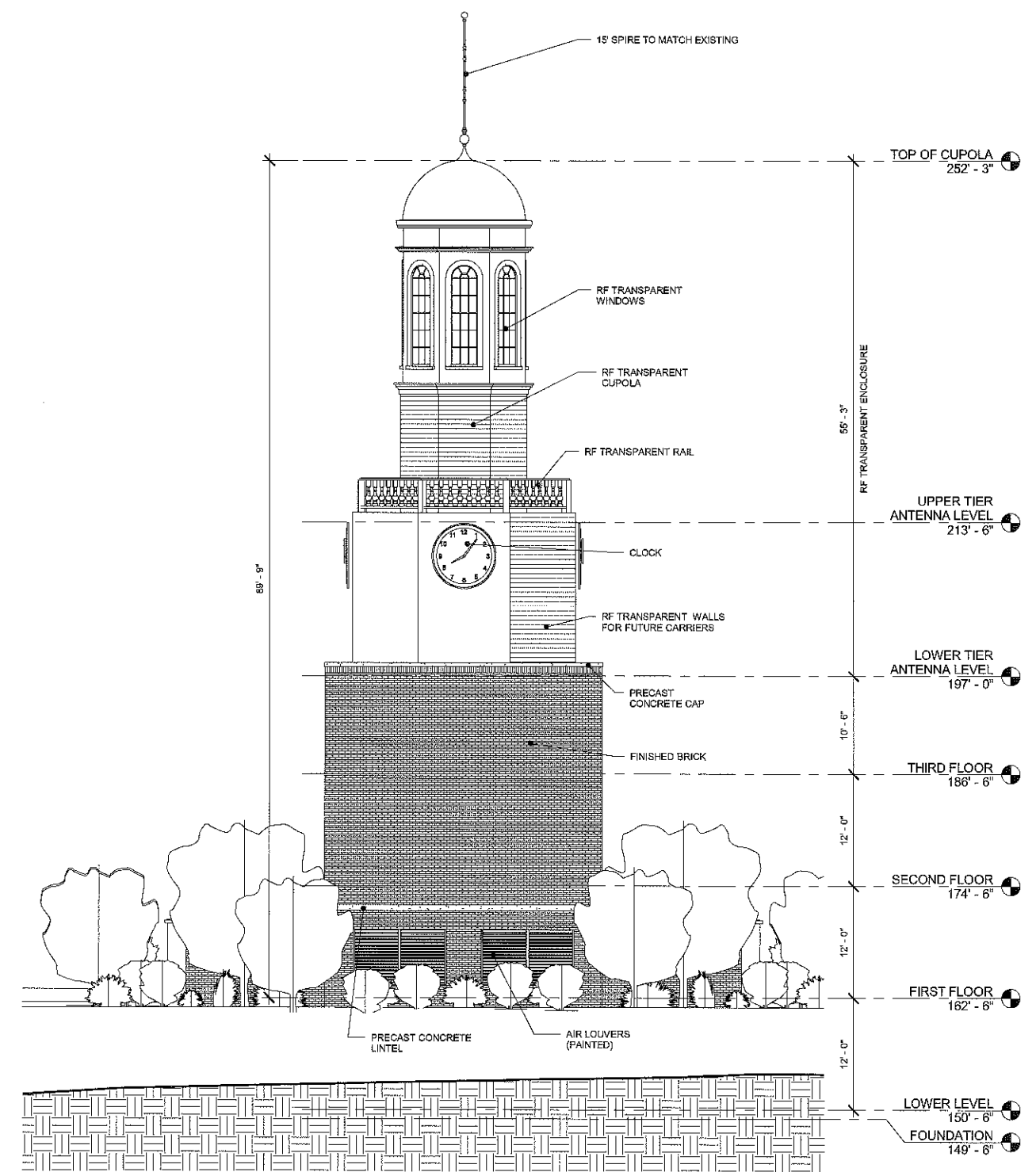
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 Reviewed by: Douglas Roberts
 Project No: 2013.02
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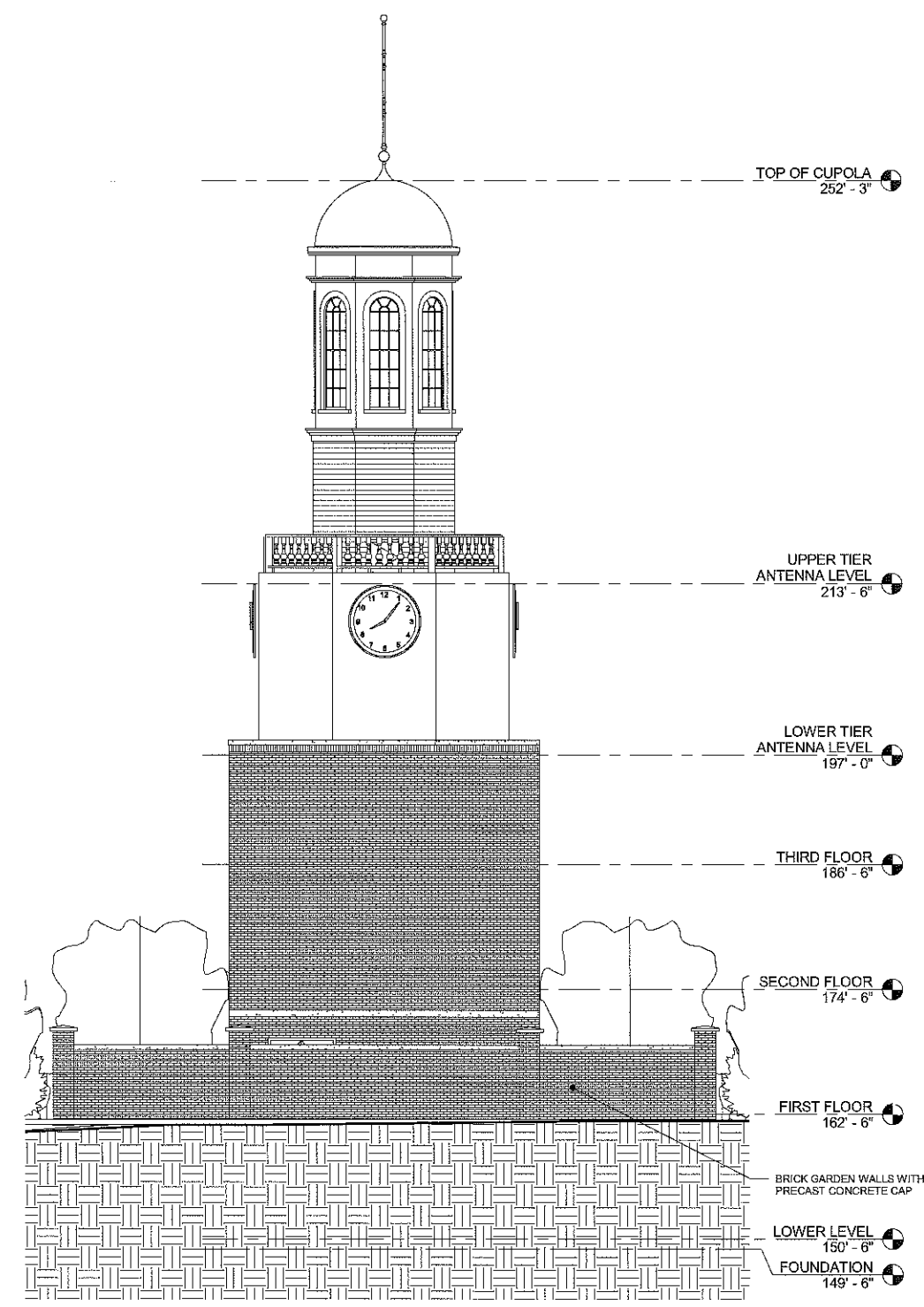
Sheet Title:
**EAST AND WEST
 ELEVATIONS**

Original drawing is D. Do not scale contents of this drawing.
 Sheet Number: Revision:

A-201



1 EAST ELEVATION
 SCALE: 1/8" = 1'-0"



2 WEST ELEVATION
 SCALE: 1/8" = 1'-0"

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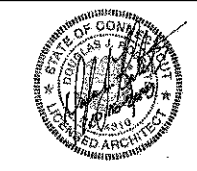
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 Email: droberts-architect@att.net



Key Plan

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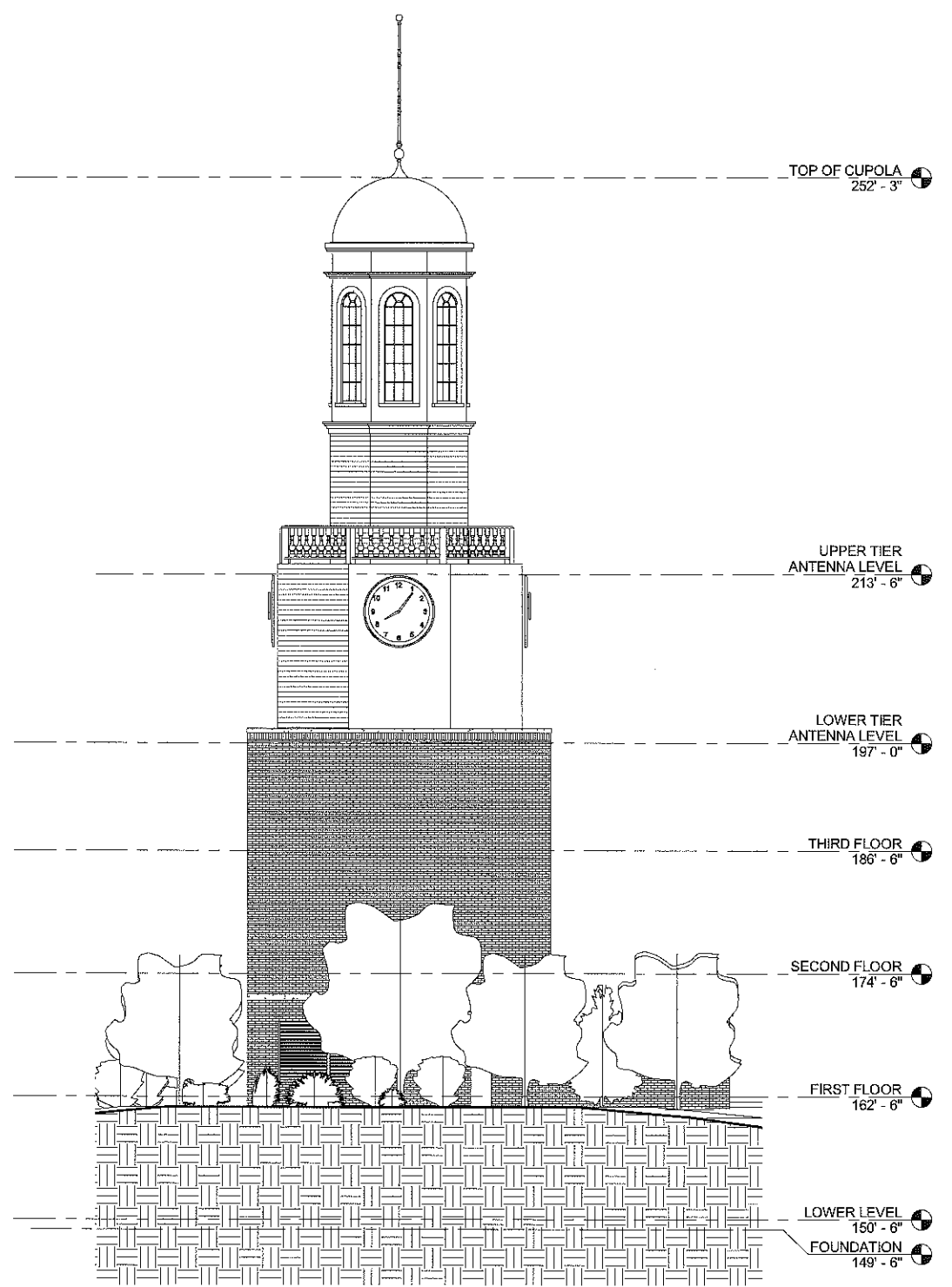
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| 2 | D&M SUBMISSION (Client Review) | 10.09.2013 |
| 3 | D&M SUBMISSION (Final/Not For Construction) | 10.21.2013 |

Drawn by: Douglas Roberts
 Drawn Date: 10.7.2013
 Reviewed by: Douglas Roberts
 Project No: 2013.02
 Scale: 1/8" = 1'-0"

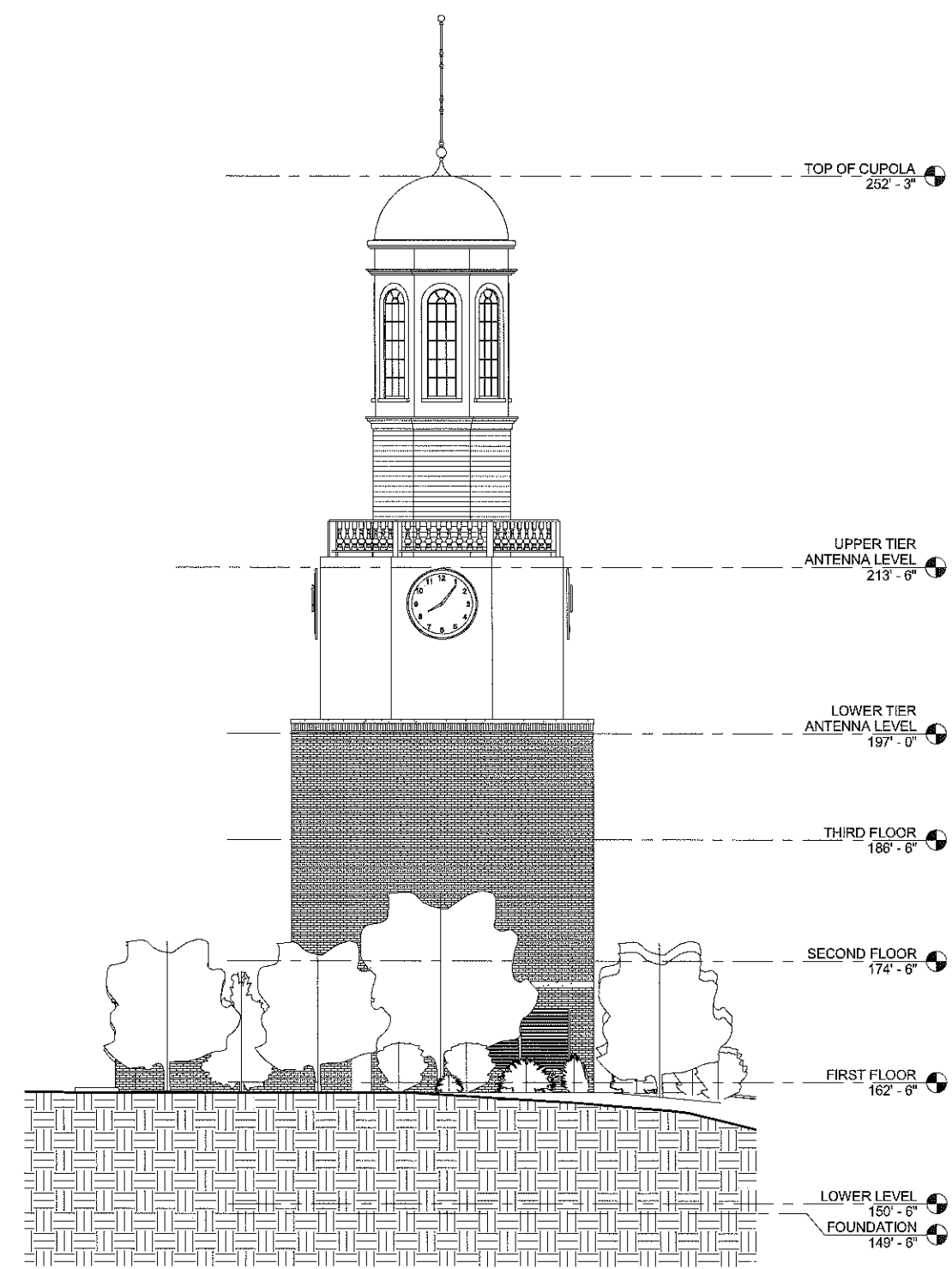
Sheet Title:
**NORTH AND SOUTH
 ELEVATIONS**

Original drawing is D. Do not scale contents of this drawing.
 Sheet Number: Revision:

A-202



1 NORTH ELEVATION
 A-202 SCALE: 1/8" = 1'-0"



2 SOUTH ELEVATION
 A-202 SCALE: 1/8" = 1'-0"



Project
**CLOCK TOWER
 AMERICAN SCHOOL FOR
 THE DEAF**

139 North Main Street
 West Hartford, Connecticut

Prepared For
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Project No: 2013.02

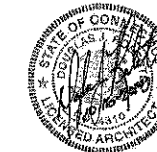
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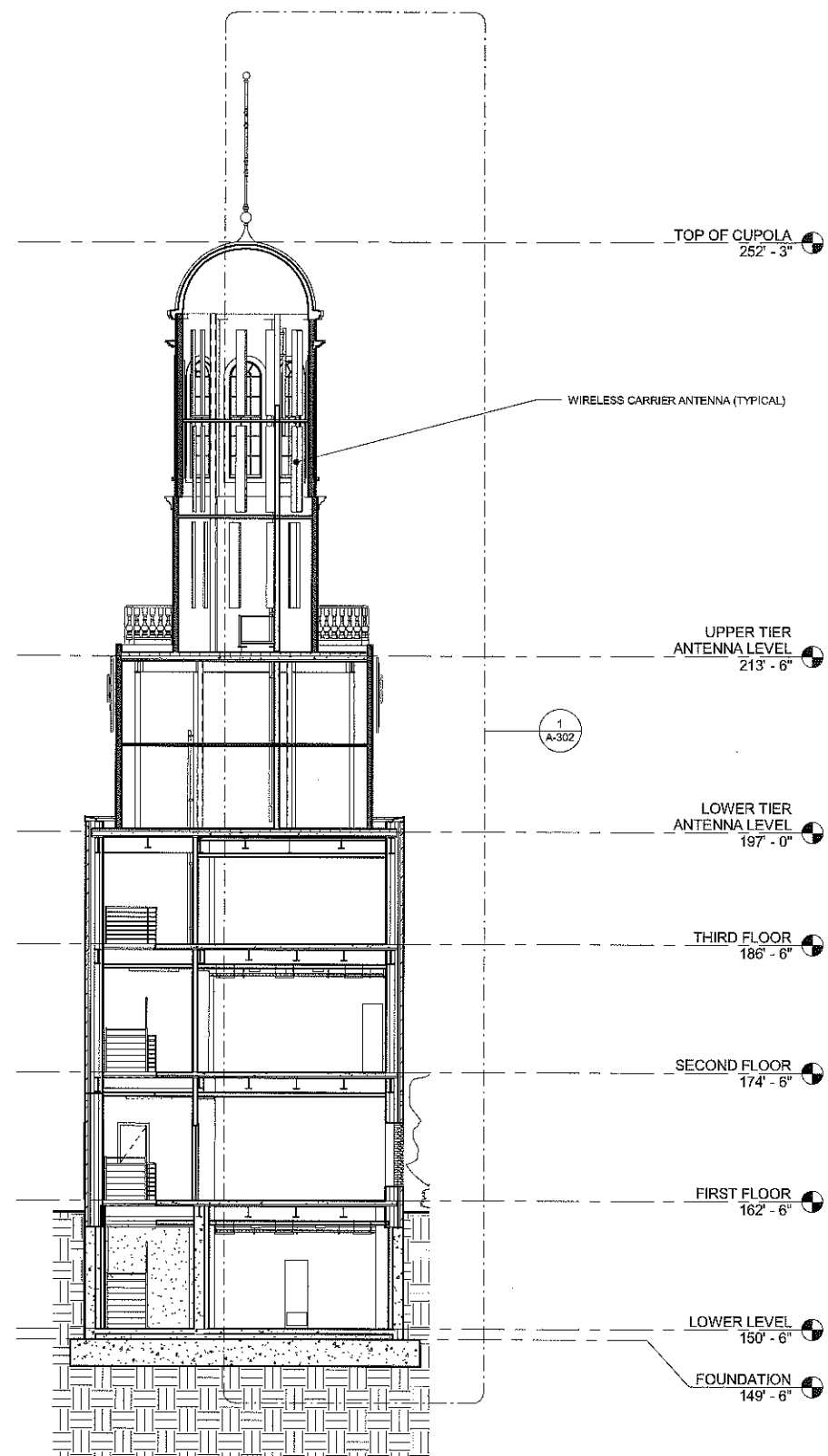
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 Drawn Date: 10.7.2013
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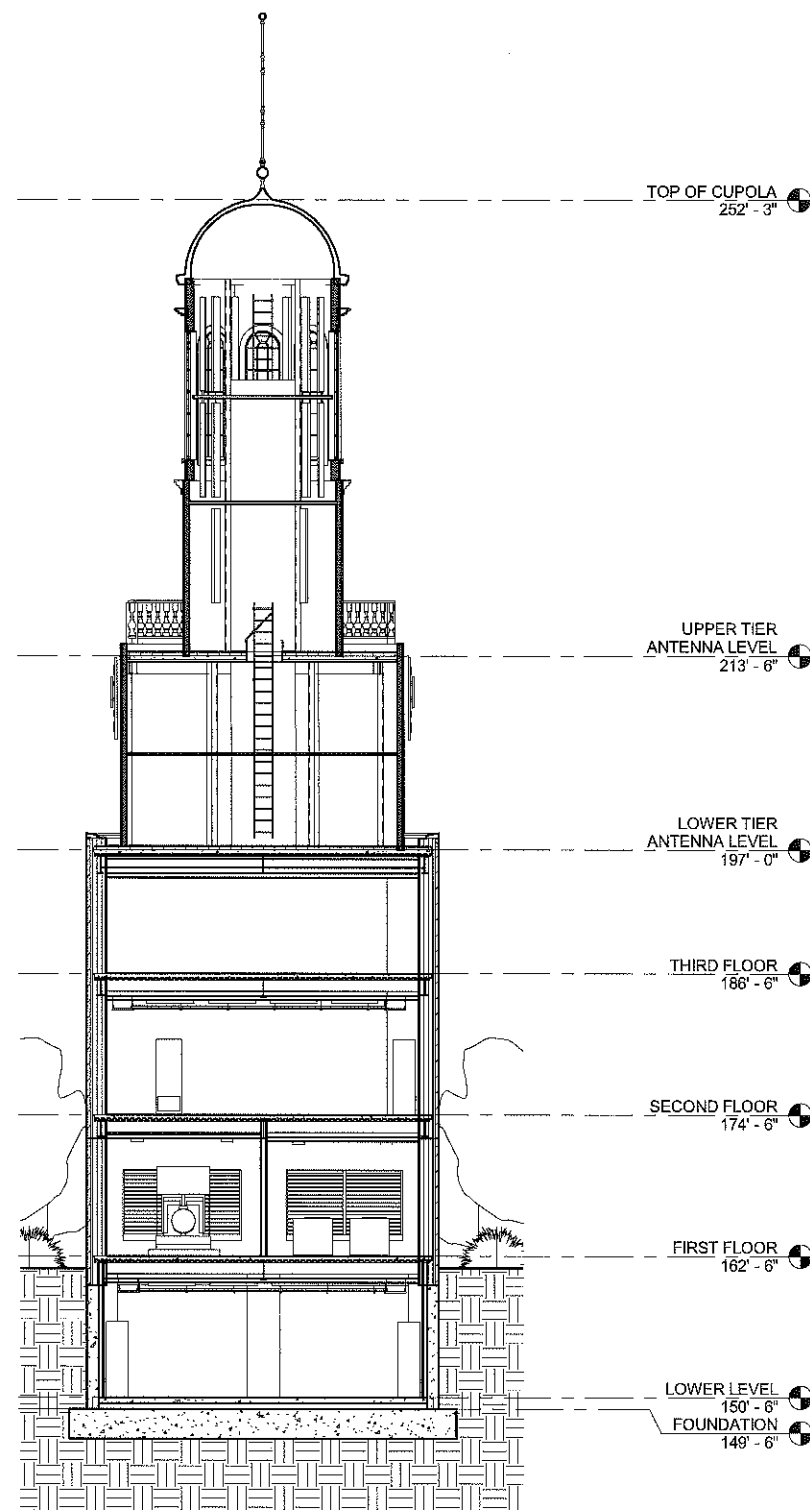
Sheet Title:
**SECTION AND
 DETAILS**

Original drawing is D. Do not scale contents of this drawing.
 Sheet Number: Revision:

A-301



1 SECTION A - A
 SCALE: 1/8" = 1'-0"



2 SECTION B - B
 SCALE: 1/8" = 1'-0"



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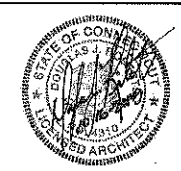
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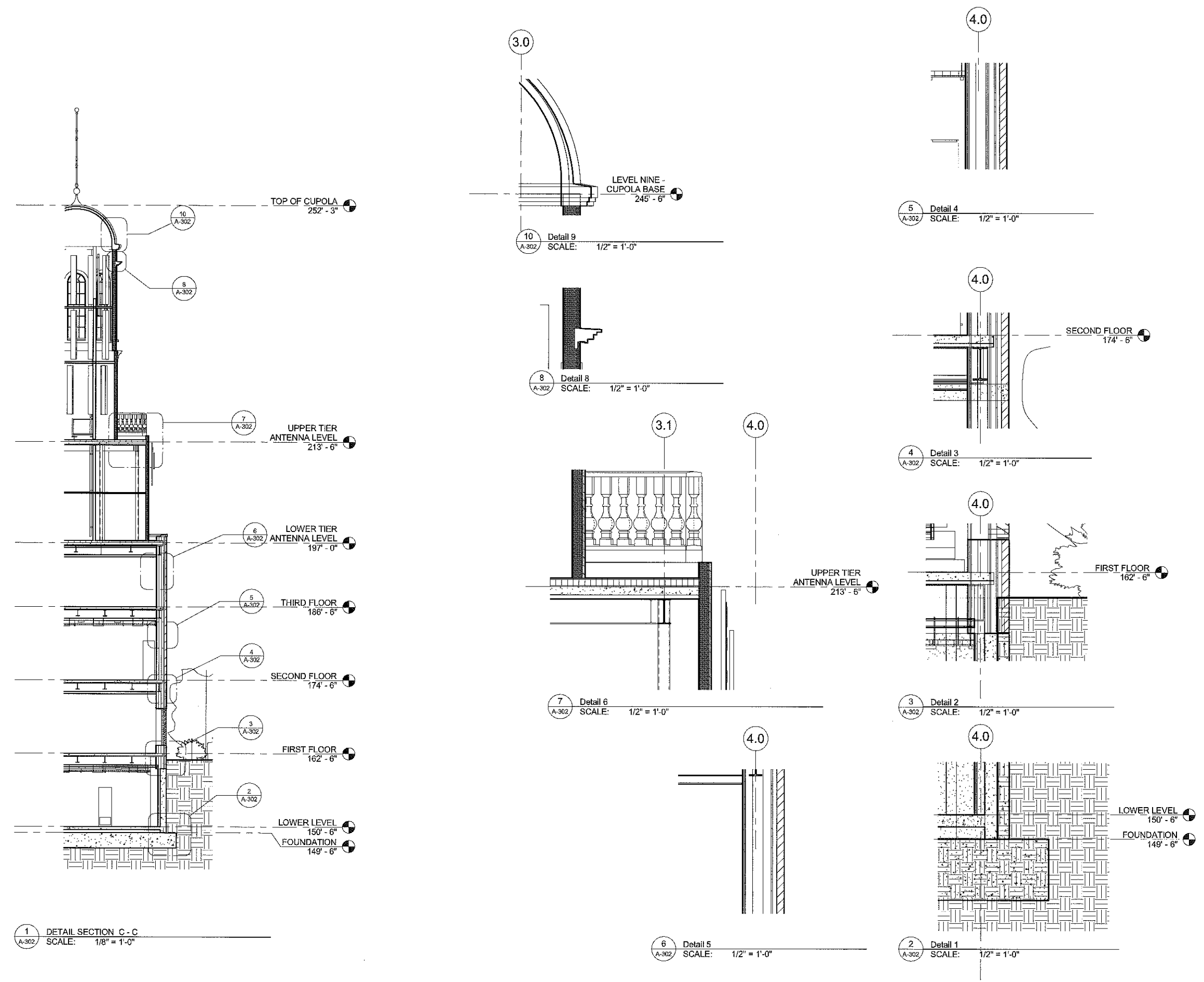
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 Drawn Date: 10.7.2013
 Reviewed by: Checker
 Project No: 2013.02
 Scale: As indicated

Sheet Title:
SECTION AND
DETAILS

Original drawing is D. Do not scale contents of this drawing.
 Sheet Number: Revision:

A-302



10/16/2013 7:06:21 PM

STRUCTURAL NOTES:

DESIGN BASIS:

GOVERNING CODE/STANDARD(S): 2003 INTERNATIONAL BUILDING CODE (IBC) AS MODIFIED BY THE 2005 CT STATE SUPPLEMENT/ASCE 7-02

BUILDING USE GROUP: U UTILITY
 BUILDING CLASSIFICATION CATEGORY: II (2005 CSBC TABLE 1604.5)

SNOW LOAD

GROUND SNOW LOAD (Pg) 30 PSF 2005 CSBC/2009 AMENDMENT: APPENDIX 'K'
 IMPORTANCE FACTOR (Is) 1.0 (2005 CSBC TABLE 1604.5)
 EXPOSURE FACTOR (Ce) 1.0 (2005 CSBC TABLE 1608.3.1)
 THERMAL FACTOR (Ct) 1.0 (2005 CSBC TABLE 1608.3.2)

WIND

BASIC WIND SPEED (3 SECOND GUST) 100 MPH 2005 CSBC/2009 AMENDMENT: APPENDIX 'K'
 EXPOSURE CATEGORY B (ASCE 7-02 SECTION 6.5.6.3)
 IMPORTANCE FACTOR (Iw) 1.0 (2005 CSBC TABLE 1604.5)
 WINDWARD COEFFICIENT: 0.8
 LEeward COEFFICIENT: 0.5
 ROOF: -0.8

BUILDING LOADS BASED ON ORIGINAL DESIGN DRAWINGS PREPARED BY ENVIRONMENTAL SYSTEMS ORGANIZATION (ESO), DATED FEBRUARY 22, 1972 AND SURGERY SUITE ADDITION AND RENOVATION DRAWINGS PREPARED BY D'GIORGIO ASSOCIATES, INC. DATED AUGUST 02, 1994, REV. E. PROJECT No. 21424.00.

DEAD LOAD SUMMARY:

MAIN ROOF AND LOWER CUPOLA ROOF DEAD LOAD

EPDM MEMBRANE ROOFING 1.0 PSF
 3" RIGID INSUL. 1.5 PSF PER INCH OF THICKNESS
 3" 20 GA. N-LOK w/ 3" L.W. CONCRETE (TOTAL THICKNESS = 6in.) 37.0 PSF
 STRUCTURAL STEEL 8.0 PSF
 M/E/P 5.0 PSF
 ACT 3.0 PSF
 MISC 5.0 PSF
SUBTOTAL ROOF DEAD LOAD 63.5 PSF (65.0 PSF USED)

TYPICAL FLOOR DEAD LOAD

FINISH (VCT) 1.0 PSF
 3" 20 GA. N-LOK w/ 3" L.W. CONCRETE (TOTAL THICKNESS = 6in.) 37.0 PSF
 STRUCTURAL STEEL 8.0 PSF
 M/E/P 5.0 PSF
 ACT 3.0 PSF
 MISC 5.0 PSF
SUBTOTAL FLOOR DEAD LOAD 59.0 PSF (65.0 PSF USED)

LIVE LOAD SUMMARY:

FLOOR 150.0 PSF
 STAIRS AND LANDING 100.0 PSF
 MECHANICAL AREAS 150.0 PSF
 SNOW (ROOF) 21.0 PSF (pf=0.7(Ce)(Ct)(I) pg)
 30.0 PSF + DRIFTING (MIN. 30 PSF PER 2005 CSBC SECTION 1608.3)
 ROOF L.L. (Lr) 20.0 PSF (2005 CSBC Eq. 16-24)
 WIND PRESSURE 22.0 PSF

CONCENTRATED LIVE LOADS:

FLOORS HAVE BEEN DESIGNED TO SUPPORT THE UNIFORMLY DISTRIBUTED LIVE LOADS PRESCRIBED ABOVE, OR THE FOLLOWING CONCENTRATED LOADS, WHICHEVER PRODUCES THE GREATER LOAD EFFECT.

GRATING (on 2.0 inches SQUARE) 300lb
 FLOOR AREAS (ON 30 inches SQUARE) 2000lb
 STAIR TREADS (on 2.0 inches SQUARE) 300lb
 ROOFS (on 6inches SQUARE) 200lb

ALL CONCENTRATED LOADS ABOVE HAVE BEEN ASSUMED TO BE NON-CONCURRENT WITH UNIFORM LIVE LOADS.

DESIGN LOADS FOR STRUCTURAL MEMBERS (COLUMNS) SUPPORTING LOAD FROM MORE THAN ONE FLOOR GREATER THAN 100 PSF:

FLOOR LIVE LOAD MAY BE REDUCED TO 80% OF THE DESIGN LIVE LOAD.
 (i.e. 150x0.80 = 120 PSF)

BUILDING STRUCTURAL FRAMING SYSTEM INFORMATION

BUILDING CONSTRUCTION TYPE: SPECIAL STEEL w/ CONCENTRICALLY BRACED FRAMES

SEISMIC DESIGN PARAMETERS

NOTE: FLAT ROOFS CONSISTING OF 30PSF OR LESS SNOW LOAD DO NOT REQUIRE SNOW LOAD TO BE COMBINED WITH SEISMIC OTHERWISE 20% COMBINED WITH SEISMIC LOADS. REFER TO SECTION 1603.3.1 EXCEPTION 2.

SEISMIC USE GROUP I (2005 CSBC TABLE 1616.1.1)
 SEISMIC DESIGN CATEGORY B (2005 CSBC TABLE 1616.1.1)
 MCE SPECTRAL ACCELERATION (Sa) 0.245 (2005 CSBC APPENDIX 'K')
 MCE SPECTRAL ACCELERATION (S1) 0.064 (2005 CSBC APPENDIX 'K')
 SITE CLASS D (UNKNOWN) (2005 CSBC TABLE 1615.1.1)
 IMPORTANCE FACTOR (Ie) 1.0 (2005 CSBC TABLE 1604.5)
 RESPONSE MODIFICATION FACTOR (R): 6.0 (2005 CSBC TABLE 1617.6.2)
 SYSTEM OVERSTRENGTH FACTOR (Oa) 2.0 (2005 CSBC TABLE 1617.6.2)
 DEFLECTION AMPLIFICATION FACTOR (Cd): 5.0 (2005 CSBC TABLE 1617.6.2)
 HEIGHT LIMIT 160.0-ft (2005 CSBC TABLE 1617.6.2)



Project

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Prepared For
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Project No: 2013.02

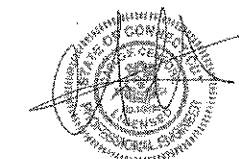


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Drawn by: JRM
 Drawn Date: 07.29.13
 Reviewed by: CFO
 Project No: 2013.02 (CENTEK Proj No. 12027.00)
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Sheet Title:

STRUCTURAL NOTES

Original drawing is D. Do not scale contents of this drawing.
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S-001

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Project No: 2013.02

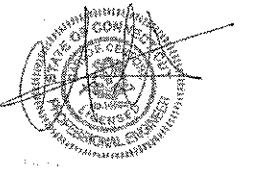
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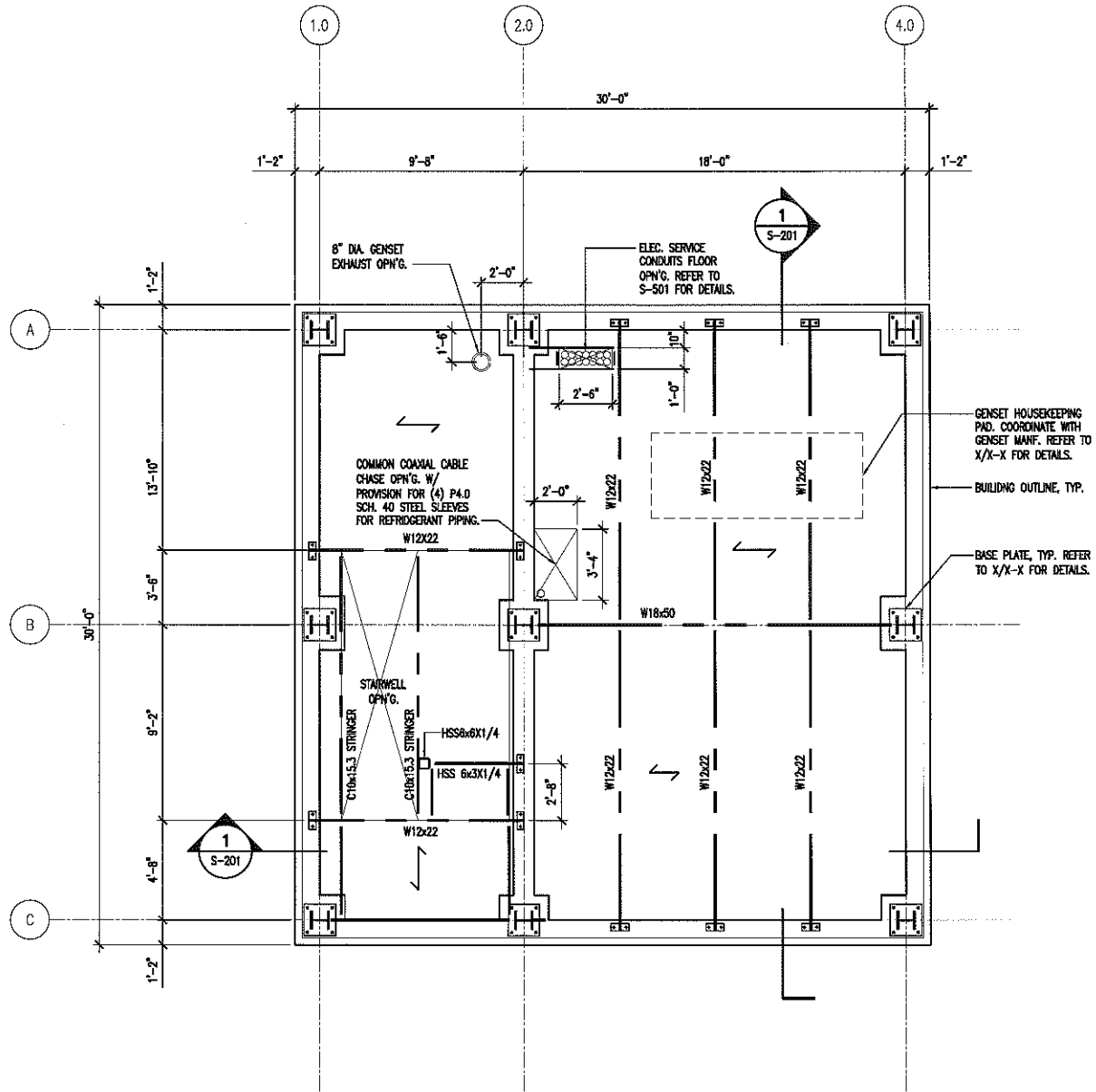
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Drawn by: JRM
 Drawn Date: 07.28.13
 Reviewed by: CFC
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 Scale: AS NOTED

FOUNDATION AND
FRAMING PLAN

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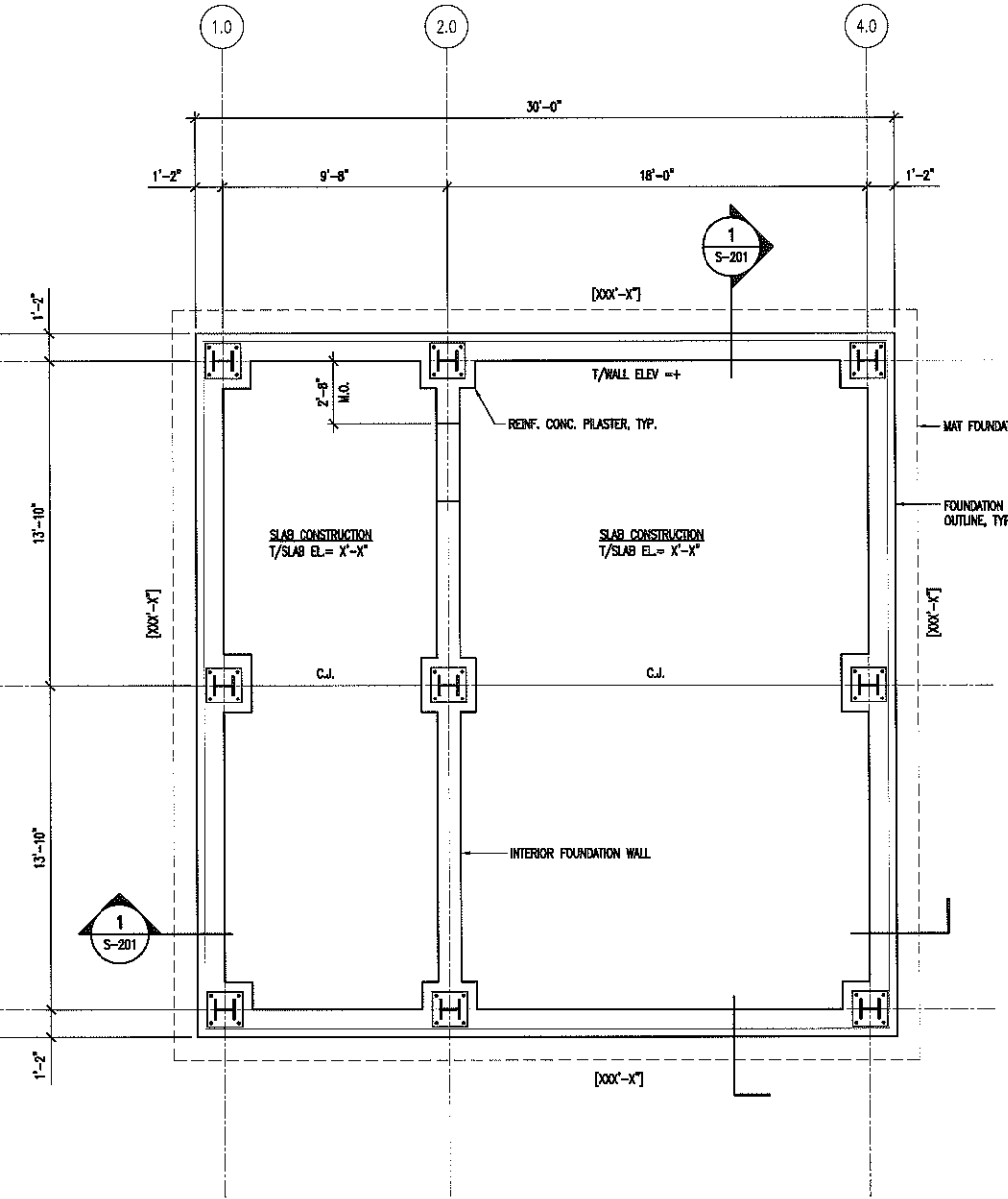
S-101



2 FIRST FLOOR FRAMING PLAN
 S-101 SCALE: 1/4" = 1'-0"

NOTES

- SEE DRAWING S-001 FOR GENERAL NOTES.
- REFER TO DRAWING S-601 FOR COLUMN AND BASE PLATE SIZES.
- FOUNDATION DESIGN BASED ON A MINIMUM PRESUMPTIVE ALLOWABLE SOIL BEARING CAPACITY OF 2500 PSF.
- LOWER LEVEL SLAB CONSTRUCTION:**
 5" MINIMUM THICK CONCRETE SLAB REINFORCED WITH 6"x6" - W2.9xW2.9 W.W.F. PLACE MESH 2" OFF SUBGRADE ON DENSE CONCRETE BRICKS SPACED AT 3'-6" ON CENTER, EACH DIRECTION. BEND MESH DOWN AT LAPS TO PROVIDE A MINIMUM TOP COVER OF 3/4". CAST SLAB ON 10 ML POLYETHYLENE VAPOR BARRIER AND 6" MINIMUM THICK LAYER OF (95% MINIMUM AS MEASURED BY MODIFIED PROCTOR, METHOD C) GRAVEL. REFER TO SPECIFICATION SECTION 02200 FOR ADDITIONAL INFORMATION AND REQUIREMENTS.
- TYPICAL FLOOR/ROOF SLAB CONSTRUCTION:**
 3"x20 ga. LOK-FLOOR COMPOSITE METAL FLOOR DECK (PAINTED) WITH 3" LIGHT WEIGHT CONCRETE COVER, TOTAL THICKNESS = 6". REINFORCE SLAB w/ 6x6-2.9x2.9 W.W.F.
 TOP OF STEEL EL. +X'-X"
 TOP OF SLAB EL. +X'-X"
- GALVANIZED BAR GRATING-Mc. NICHOLS Co. GW-150 1 1/2"x3/16" SERRATED BAR GRATING WITH STANDARD SADDLE CUP FASTENERS. REFER TO FRAMING PLAN FOR DECK SPAN DIRECTION.



1 FOUNDATION PLAN
 S-101 SCALE: 1/4" = 1'-0"

LEGEND

- [XXX'-X"] DENOTES BOTTOM OF FOOTING ELEVATION.
- EL. [000'-0"] DENOTES APPROX. FINISH GRADE
- F.S DENOTES FOOTING STEP.
- W.P. DENOTES WORKING POINT.
- (XXX) DENOTES COLUMN GRID LINE #
- T/SLAB DENOTES TOP OF CONCRETE FLOOR/ROOF SLAB
- T/STEEL DENOTES TOP OF STEEL
- ▶ DENOTES MOMENT CONNECTION, WHERE APPLICABLE.
- ↔ DENOTES SPAN DIRECTION OF COMPOSITE METAL DECK OR GRATING.
- B.F DENOTES BRACED FRAME. SEE DRAWING S-501 FOR SIZES AND ELEVATIONS.
- C.J. DENOTES CONTROL JOINT
- DENOTES BRACING MEMBER



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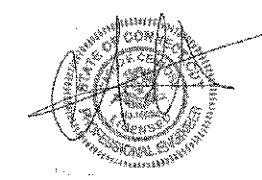
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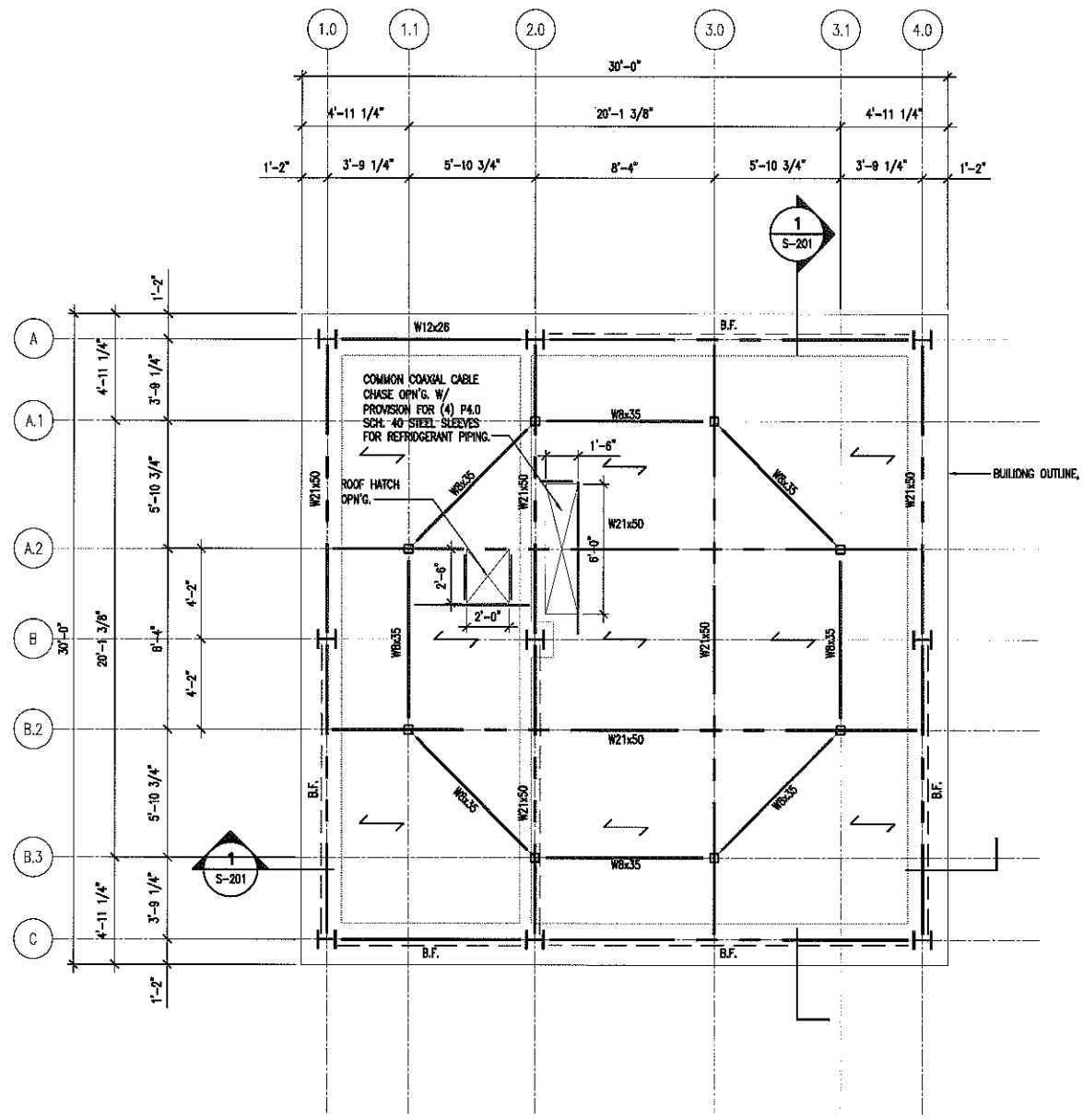
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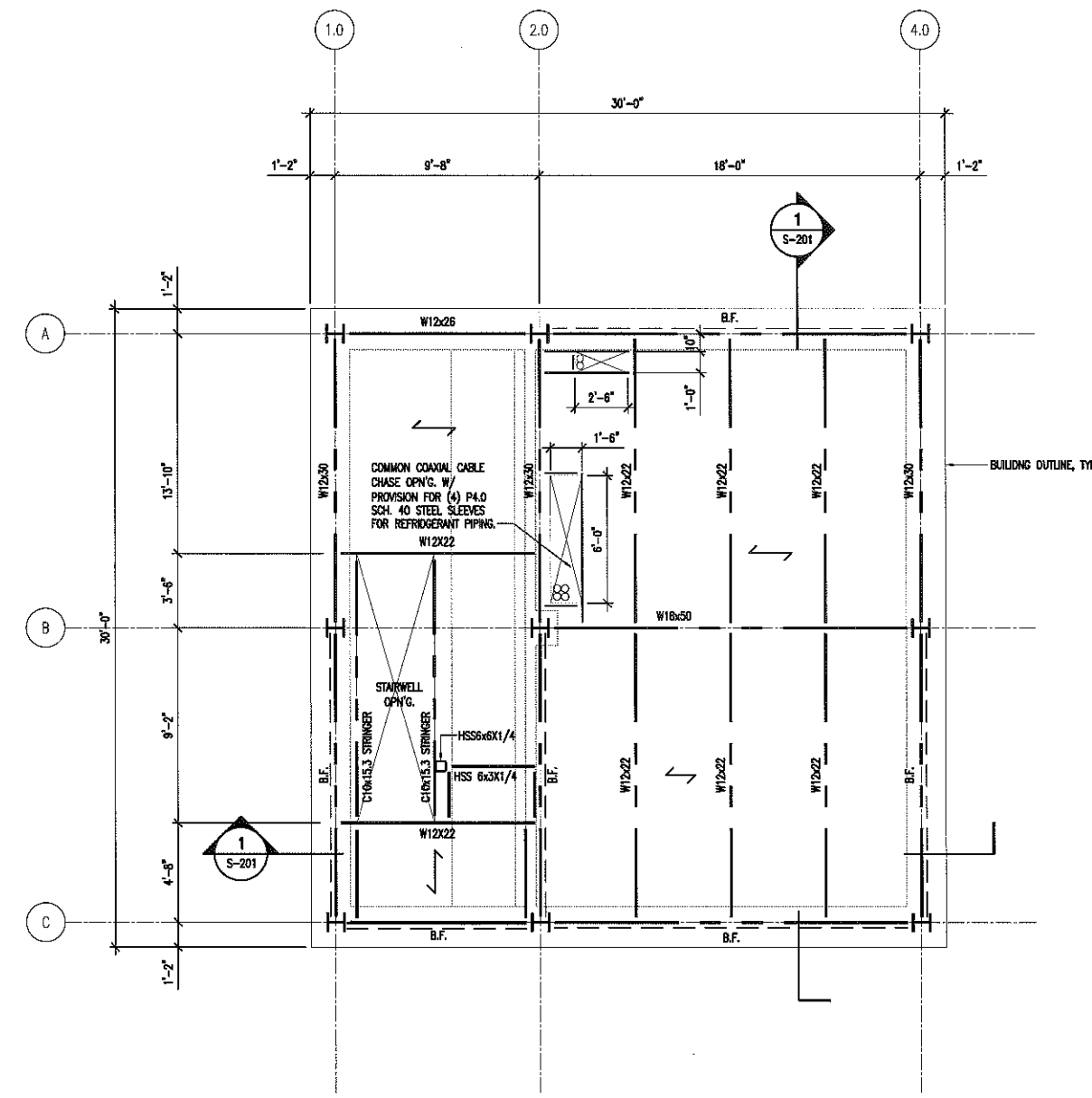


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2 LOWER TIER ANTENNA SPACE/LOW ROOF FRAMING PLAN
 S-102 SCALE: 1/4" = 1'-0"



1 SECOND AND THIRD FLOOR FRAMING PLANS
 S-101 SCALE: 1/4" = 1'-0"

NOTES

- SEE DRAWING S-001 FOR GENERAL NOTES.
- REFER TO DRAWING S-801 FOR COLUMN AND BASE PLATE SIZES.
- FOUNDATION DESIGN BASED ON A MINIMUM PRESUMPTIVE ALLOWABLE SOIL BEARING CAPACITY OF 2500 PSF.
- LOWER LEVEL SLAB CONSTRUCTION:**
 5" MINIMUM THICK CONCRETE SLAB REINFORCED WITH 6"x6" W2.9xW2.9 W.W.F. PLACE MESH 2" OFF SUBGRADE ON DENSE CONCRETE BRICKS SPACED AT 3'-6" ON CENTER, EACH DIRECTION. BEND MESH DOWN AT LAPS TO PROVIDE A MINIMUM TOP COVER OF 3/4". CAST SLAB ON 10 MIL POLYETHYLENE VAPOR BARRIER AND 6" MINIMUM THICK LAYER OF (95% MINIMUM AS MEASURED BY MODIFIED PROCTOR, METHOD C) GRAVEL. REFER TO SPECIFICATION SECTION 02200 FOR ADDITIONAL INFORMATION AND REQUIREMENTS.
- TYPICAL FLOOR/ROOF SLAB CONSTRUCTION:**
 3"x20 ga. LOK-FLOOR COMPOSITE METAL FLOOR DECK (PAINTED) WITH 3" LIGHT WEIGHT CONCRETE COVER, TOTAL THICKNESS = 6". REINFORCE SLAB w/ 6x6-2.9x2.9 W.W.F.
 TOP OF STEEL EL. +X'-X"
 TOP OF SLAB EL. +X'-X"
- GALVANIZED BAR GRATING-Mc. NICHOLS Co. GW-150 1 1/2"x3/16" SERRATED BAR GRATING WITH STANDARD SADDLE CLIP FASTENERS. REFER TO FRAMING PLAN FOR DECK SPAN DIRECTION.**

LEGEND

- [XXX'-X"] DENOTES BOTTOM OF FOOTING ELEVATION.
- EL. [000'-0"] DENOTES APPROX. FINISH GRADE
- F.S. DENOTES FOOTING STEP.
- W.P. DENOTES WORKING POINT.
- (XXX) DENOTES COLUMN GRID LINE #
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- B.F. DENOTES BRACED FRAME. SEE DRAWING S-501 FOR SIZES AND ELEVATIONS.
- C.J. DENOTES CONTROL JOINT
- DENOTES BRACING MEMBER

Drawn by: JRM
 Drawn Date: 07.28.13
 Reviewed by: CFC
 Project No: 2013.02 (CENTEK Proj No. 12027.00)
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Sheet Title:
FRAMING PLANS

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 Sheet Number: S-102 Revisions:

S-102



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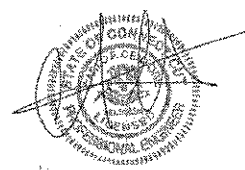
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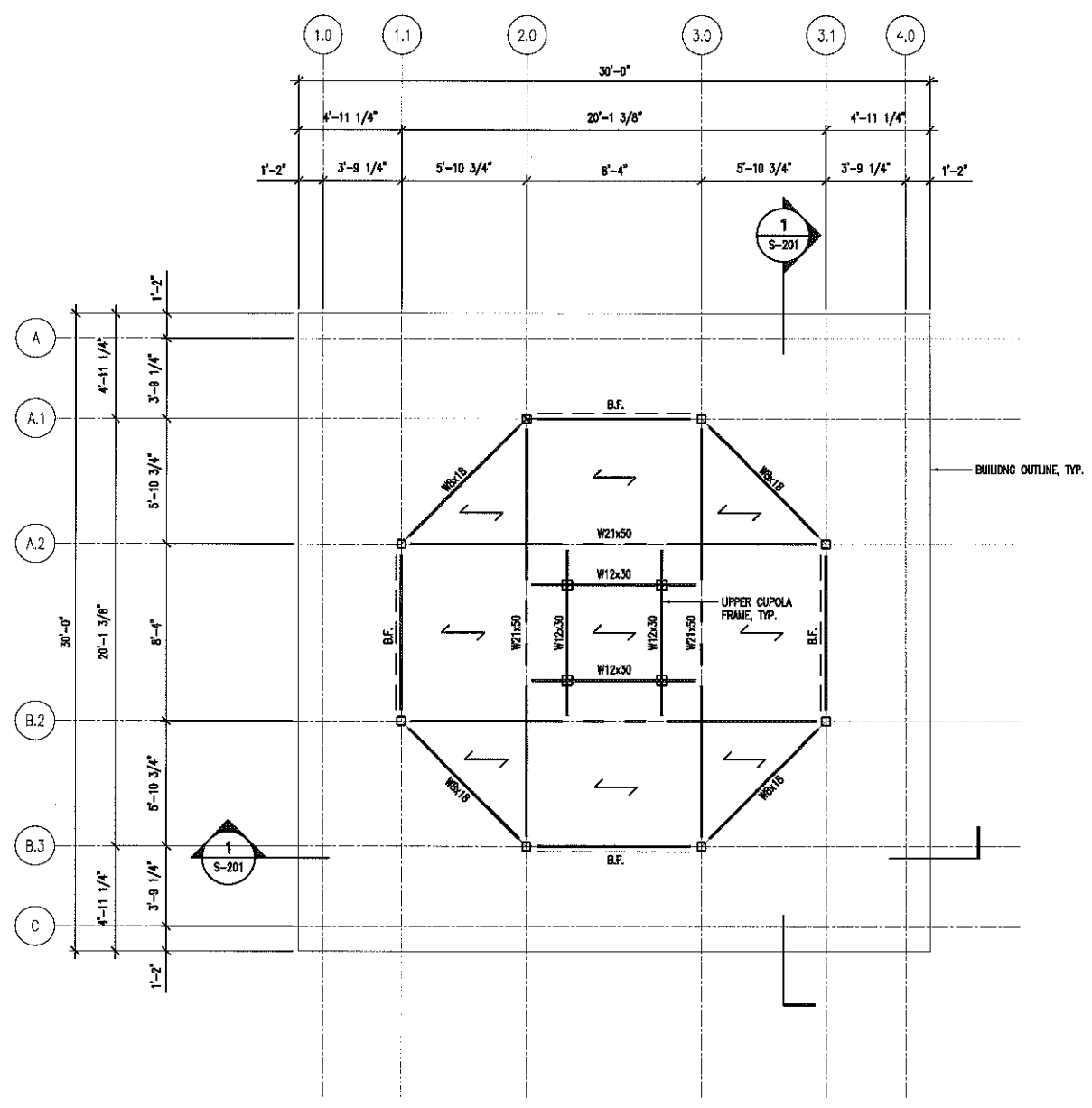
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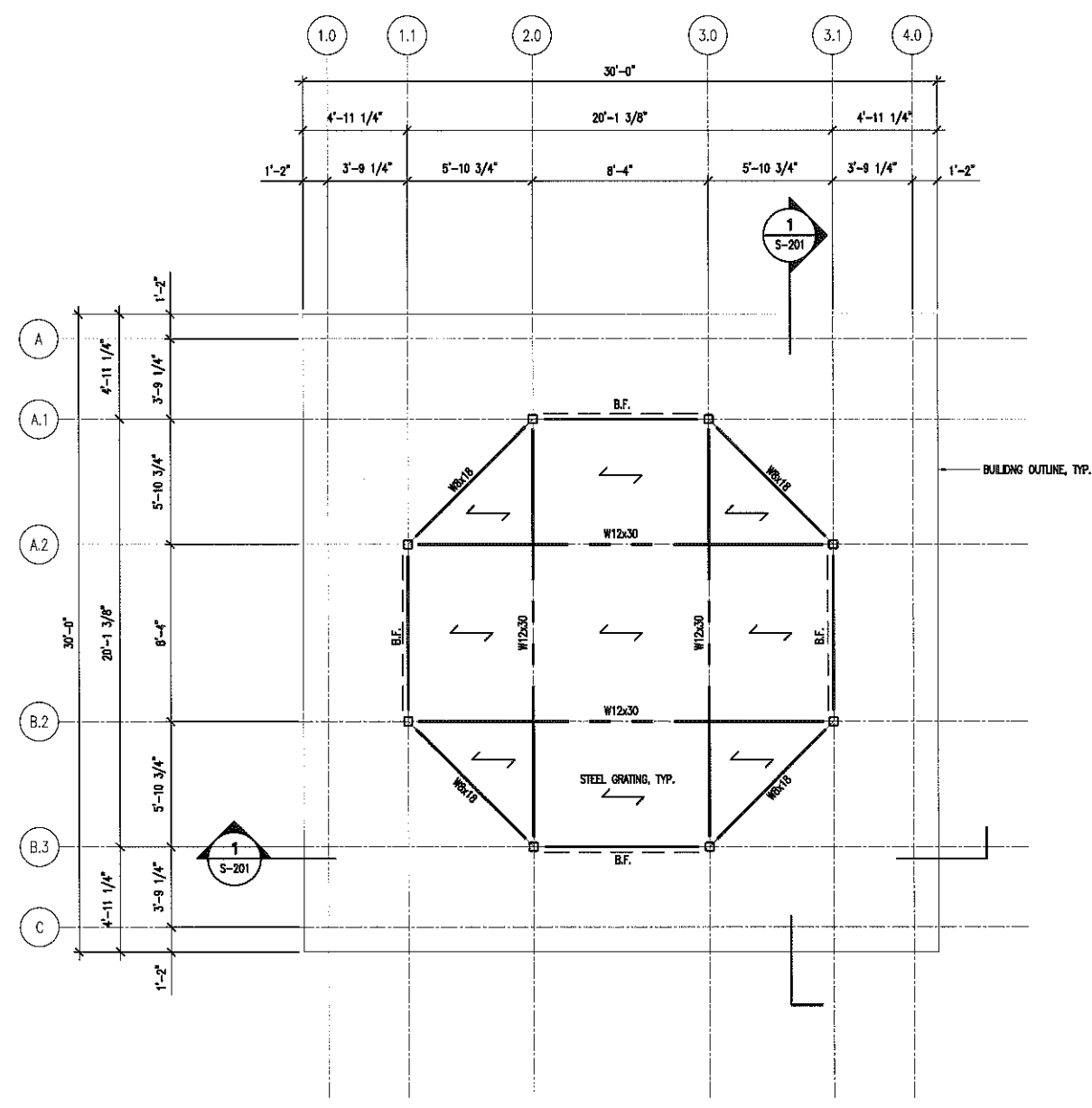
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FRAMING PLANS

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S-103



2 UPPER TIER ANTENNA SPACE/HI ROOF FRAMING PLAN
 S-103 SCALE: 1/4" = 1'-0"



1 LOWER TIER ANTENNA SPACE INTERMEDIATE FLOOR FRAMING PLAN
 S-103 SCALE: 1/4" = 1'-0"

NOTES

- SEE DRAWING S-001 FOR GENERAL NOTES.
- REFER TO DRAWING S-601 FOR COLUMN AND BASE PLATE SIZES.
- FOUNDATION DESIGN BASED ON A MINIMUM PRESUMPTIVE ALLOWABLE SOIL BEARING CAPACITY OF 2500 PSF.
- LOWER LEVEL SLAB CONSTRUCTION:**
 5" MINIMUM THICK CONCRETE SLAB REINFORCED WITH 6"x6" W2.9xW2.9 W.W.F. PLACE MESH 2" OFF SUBGRADE ON DENSE CONCRETE BRICKS SPACED AT 3'-6" ON CENTER, EACH DIRECTION. BEND MESH DOWN AT LAPS TO PROVIDE A MINIMUM TOP COVER OF 3/4". CAST SLAB ON 10 MIL POLYETHYLENE VAPOR BARRIER AND 6" MINIMUM THICK LAYER OF (85K MINIMUM AS MEASURED BY MODIFIED PROCTOR, METHOD C) GRAVEL. REFER TO SPECIFICATION SECTION 02200 FOR ADDITIONAL INFORMATION AND REQUIREMENTS.
- TYPICAL FLOOR/ROOF SLAB CONSTRUCTION:**
 3"x20 ga. LOW-FLOOR COMPOSITE METAL FLOOR DECK (PAINTED) WITH 3" LIGHT WEIGHT CONCRETE COVER, TOTAL THICKNESS = 6". REINFORCE SLAB w/ 6x6-2.9x2.9 W.W.F.
 TOP OF STEEL EL. +X'-X"
 TOP OF SLAB EL. +X'-X"
- GALVANIZED BAR GRATING-Mc. NICHOLS Co. GW-150 1 1/2"x3/16" SERRATED BAR GRATING WITH STANDARD SADDLE CLIP FASTENERS. REFER TO FRAMING PLAN FOR DECK SPAN DIRECTION.

LEGEND

- [XXX'-X"] DENOTES BOTTOM OF FOOTING ELEVATION.
- EL. [000'-0"] DENOTES APPROX. FINISH GRADE
- F.S. DENOTES FOOTING STEP.
- W.P. DENOTES WORKING POINT.
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- T/STEEL DENOTES TOP OF STEEL
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- ↔ DENOTES SPAN DIRECTION OF COMPOSITE METAL DECK OR GRATING.
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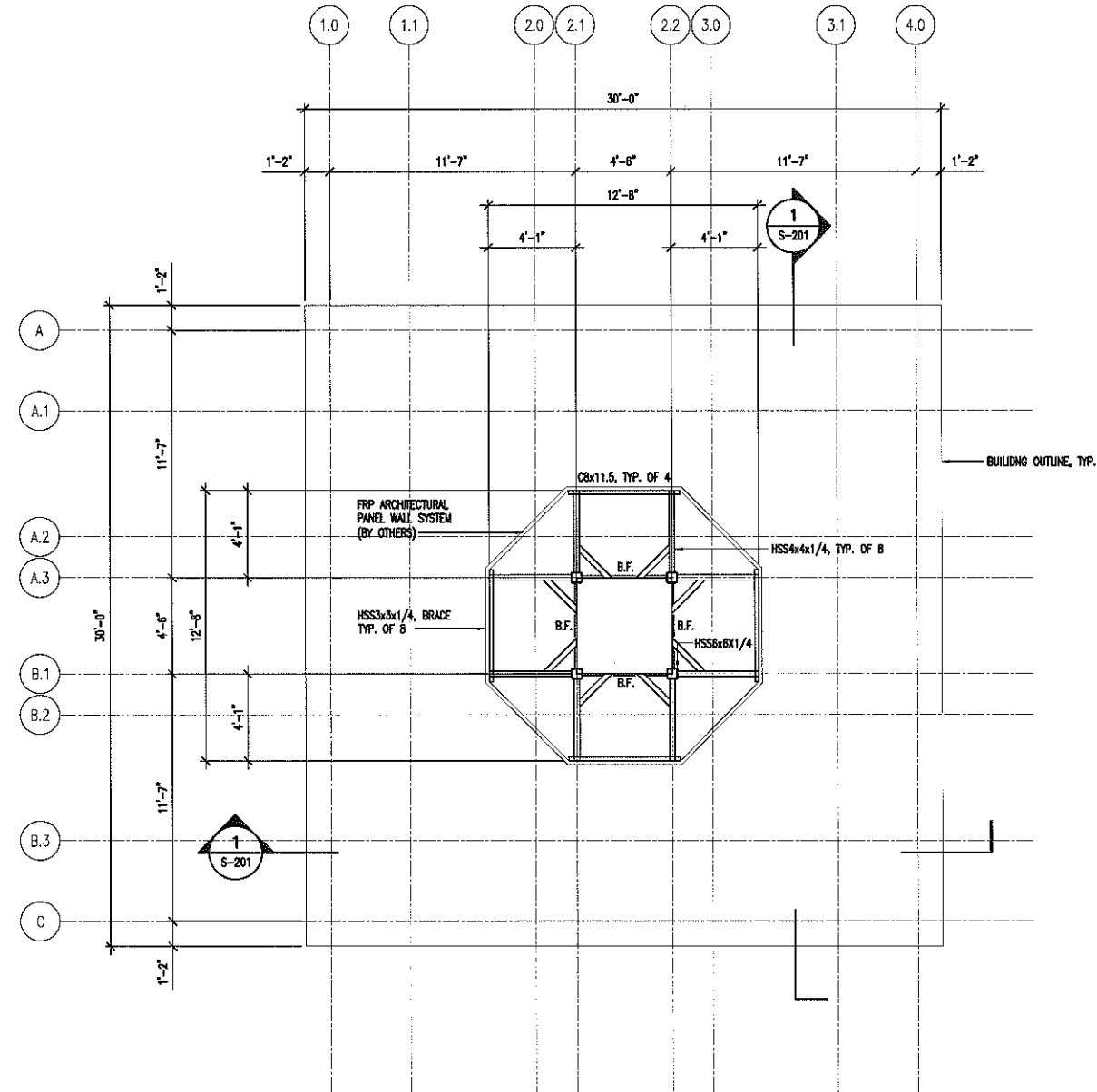
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| 0 | D&M Submission (Not for Construction) | 07.29.13 |
| 1 | D&M Submission (Not for Construction) | 09.09.13 |
| 2 | D&M Submission (Client Review) | 10.08.13 |
| 3 | D&M Submission (Final-Not for Construction) | 10.21.13 |



1 TYPICAL UPPER TIER INTERMEDIATE FRAMING PLAN
 S-104 SCALE: 1/4" = 1'-0"

NOTES

- SEE DRAWING S-001 FOR GENERAL NOTES.
- REFER TO DRAWING S-001 FOR COLUMN AND BASE PLATE SIZES.
- FOUNDATION DESIGN BASED ON A MINIMUM PRESUMPTIVE ALLOWABLE SOIL BEARING CAPACITY OF 2500 PSF.
- LOWER LEVEL SLAB CONSTRUCTION:**
 5" MINIMUM THICK CONCRETE SLAB REINFORCED WITH 6"x6" - W2.9xW2.9 W.W.F. PLACE MESH 2" OFF SUBGRADE ON DENSE CONCRETE BRICKS SPACED AT 3'-6" ON CENTER, EACH DIRECTION. BEND MESH DOWN AT LAPS TO PROVIDE A MINIMUM TOP COVER OF 3/4". CAST SLAB ON 10 MIL. POLYETHYLENE VAPOR BARRIER AND 6" MINIMUM THICK LAYER OF (95% MINIMUM AS MEASURED BY MODIFIED PROCTOR, METHOD C) GRAVEL. REFER TO SPECIFICATION SECTION 02200 FOR ADDITIONAL INFORMATION AND REQUIREMENTS.
- TYPICAL FLOOR/ROOF SLAB CONSTRUCTION:**
 3x20 ga. LOK-FLOOR COMPOSITE METAL FLOOR DECK (PAINTED) WITH 3" LIGHT WEIGHT CONCRETE COVER, TOTAL THICKNESS = 6". REINFORCE SLAB w/ 6x6-2.9x2.9 W.W.F.
 TOP OF STEEL EL. +X'-X"
 TOP OF SLAB EL. +X'-X"
- GALVANIZED BAR GRATING-Mc. NICHOLS Co. GW-150 1 1/2"x3/16" SERRATED BAR GRATING WITH STANDARD SADDLE CLIP FASTENERS. REFER TO FRAMING PLAN FOR DECK SPAN DIRECTION.

LEGEND

| | |
|---------------|---|
| [XXX'-X"] | DENOTES BOTTOM OF FOOTING ELEVATION. |
| EL. [000'-0"] | DENOTES APPROX. FINISH GRADE |
| F.S | DENOTES FOOTING STEP. |
| W.P. | DENOTES WORKING POINT. |
| (XXX) | DENOTES COLUMN GRID LINE # |
| T/SLAB | DENOTES TOP OF CONCRETE FLOOR/ROOF SLAB |
| T/STEEL | DENOTES TOP OF STEEL |
| ▶ | DENOTES MOMENT CONNECTION, WHERE APPLICABLE. |
| ↔ | DENOTES SPAN DIRECTION OF COMPOSITE METAL DECK OR GRATING. |
| B.F. | DENOTES BRACED FRAME. SEE DRAWING S-501 FOR SIZES AND ELEVATIONS. |
| C.J. | DENOTES CONTROL JOINT |
| --- | DENOTES BRACING MEMBER |

Drawn by: JRM
 Drawn Date: 07.29.13
 Reviewed by: QFC
 Project No: 2013.02 (CENTEK Proj No. 12027.00)
 Scale: AS NOTED

Sheet Title:
FRAMING PLAN

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 Sheet Number: Revision:

S-104



Project
CLOCK TOWER
AMERICAN SCHOOL FOR
THE DEAF
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 West Hartford, Connecticut
 Prepared For
VERIZON WIRELESS

Project No: 2013.02

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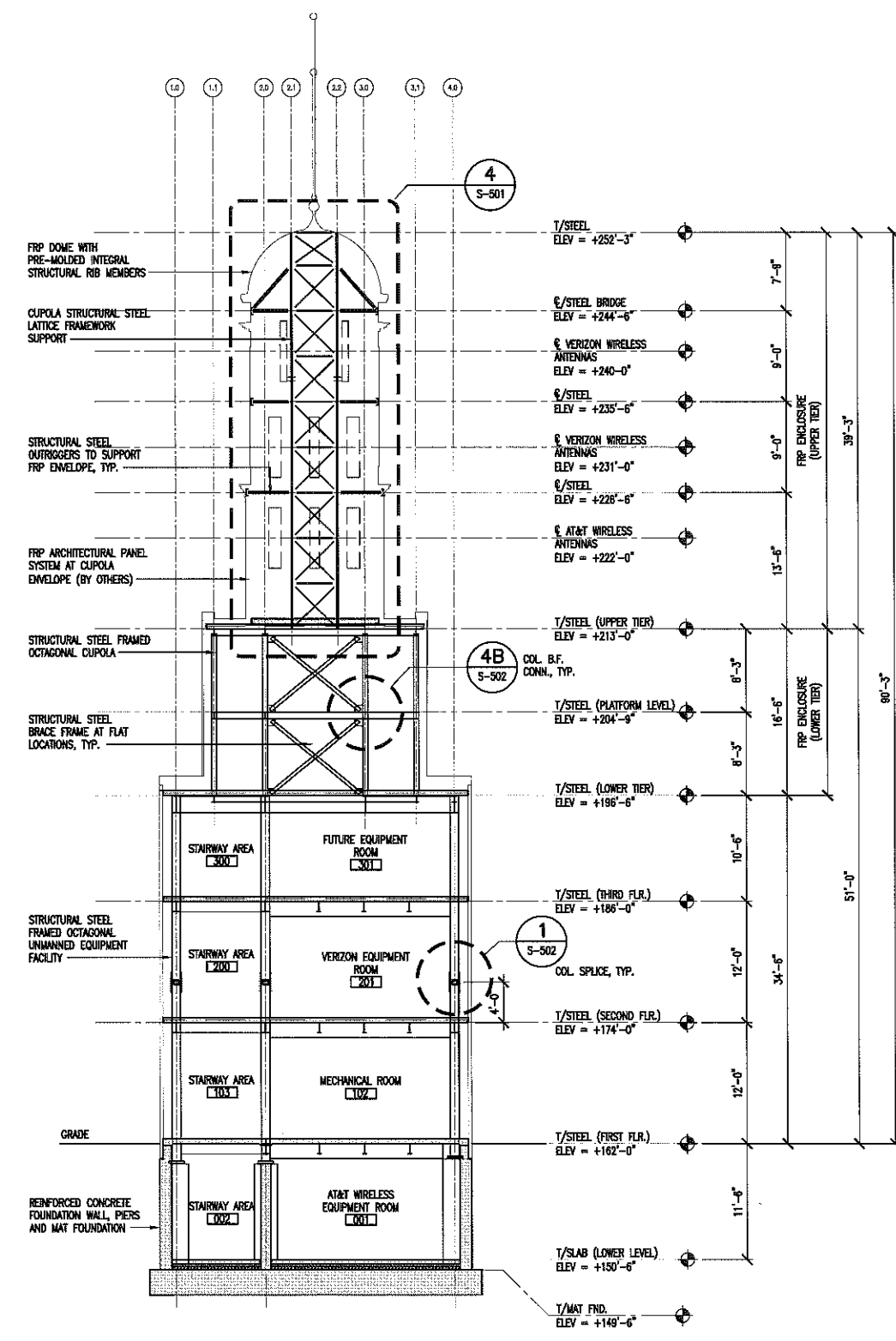
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Drawn by: JRM
 Drawn Date: 07.29.13
 Reviewed by: OFC
 Project No: 2013.02 (CENTEK Proj No. 12027.00)
 Scale: AS NOTED

Sheet Title:
BUILDING SECTION

Original drawing is D. Do not scale contents of this drawing.
 Sheet Number: Revision:

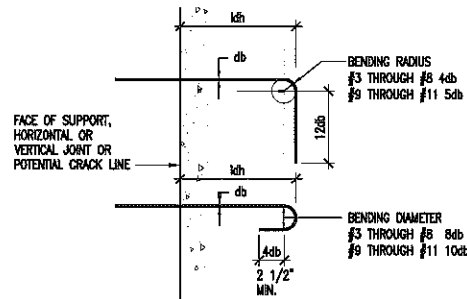
S-201



1 BUILDING SECTION
 S-201 SCALE: 1/8" = 1'-0"

| BAR SIZE | TENSION DEVELOPMENT LENGTH, (l _d), inches | | |
|----------|---|------------------------|------------------------|
| | f' _c =3 KSI | f' _c =4 KSI | f' _c =5 KSI |
| #3 | 9" | 8" | 7" |
| #4 | 11" | 9" | 9" |
| #5 | 14" | 12" | 11" |
| #6 | 17" | 15" | 13" |
| #7 | 20" | 17" | 15" |
| #8 | 22" | 19" | 17" |
| #9 | 25" | 22" | 20" |
| #10 | 28" | 24" | 22" |
| #11 | 31" | 27" | 24" |

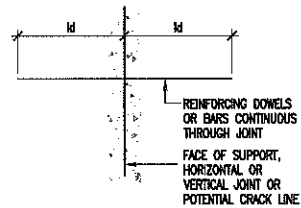
SEE NOTES BELOW FOR LT. WT. CONC. AND EPOXY-COATING FACTORS



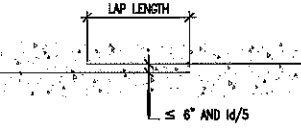
- NOTES:**
- TABULATED DEVELOPMENT LENGTHS ARE BASED ON REINFORCING YIELD STRENGTH F_y = 80 KSI AND NORMAL WEIGHT CONCRETE. LIGHTWEIGHT CONCRETE FACTOR EQUALS 1.30 EPOXY-COATED BAR FACTOR EQUALS 1.20.
 - ALL TABULATED VALUES ARE MINIMUM LENGTHS. IN CASE OF CONFLICT WITH THE PLANS, SECTIONS OR DETAILS, USE THE LONGER LENGTH.
 - ALL HOOKED BAR DEVELOPMENTS SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF ACI 318.

| CONDITION | CONCRETE COVER REQUIREMENTS | | |
|--|--|--|---|
| | CAST-IN-PLACE CONCRETE (NON-PRESTRESSED) | PRECAST CONCRETE (PLANT MANUFACTURED) | PRESTRESSED CONCRETE |
| CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH | 3" | N/A | 3" |
| CONCRETE EXPOSED TO EARTH OR WEATHER | 2" | WALL PANELS: 3/4" OTHER MEMBERS: 1 1/2" | WALL PANELS, SLABS, JOISTS: 1" OTHER MEMBERS: 1 1/2" |
| CONCRETE NOT EXPOSED TO WEATHER OR IN CONTACT WITH EARTH | | | |
| SLABS, WALLS, JOISTS: | 3/4" | 5/8" | 3/4" |
| BEAMS, COLUMNS, PIERS, PILASTERS: | | | |
| PRIMARY REINF.: TIES, STIRRUPS, SPIRALS SHELLS, FOLDED-PLATE MEMBERS | 1 1/2" 1 1/2" 3/4" | db BUT NOT LESS THAN 3/8" 5/8" | 1 1/2" 1 db BUT NOT LESS THAN 3/4" |

- NOTES:**
- FOR BUNDLED BARS, THE MINIMUM CONCRETE COVER SHALL BE EQUAL TO THE EQUIVALENT DIAMETER OF THE BUNDLE, BUT NEED NOT BE GREATER THAN 2 INCHES, EXCEPT FOR CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH, THE MINIMUM COVER SHALL BE 3 INCHES.
 - REINFORCEMENT, STRESSING TENDONS, DUCTS AND END FITTINGS SHALL BE ACCURATELY PLACED AND ADEQUATELY SUPPORTED BEFORE CONCRETE IS CAST, AND SHALL BE SECURED AGAINST DISPLACEMENT WITHIN TOLERANCES AS FOLLOWS:
 - d ≤ 8 INCHES: TOLERANCE ON d = +/- 3/8 inch; TOLERANCE ON COVER = - 3/8 inch
 - d > 8 INCHES +/- TOLERANCE ON d = +/- 1/2 inch; TOLERANCE ON COVER = - 1/2 inch
 - FOR ALL "d": TOLERANCE ON COVER SHALL NOT EXCEED MINUS 1/3 THE TABULATED COVER REQUIREMENTS AND THE TOLERANCE FOR THE CLEAR DISTANCE TO FORMED SOFFITS SHALL BE MINUS 1/4 INCH. TOLERANCE FOR LONGITUDINAL LOCATION AT BENDS AND ENDS OF REINFORCEMENT SHALL BE +/- 2 INCHES EXCEPT AT DISCONTINUOUS ENDS OF MEMBERS WHERE THE TOLERANCES SHALL BE +/- 1/2 INCH. WHERE d = THE DISTANCE FROM THE EXTREME COMPRESSION FIBER TO THE CENTER OF TENSION REINFORCEMENT IN INCHES.
 - THE COVER, TOLERANCE AND BAR AND MESH SUPPORT REQUIREMENTS SHALL BE SHOWN ON THE REINFORCING SHOP DRAWINGS.



DEVELOPMENT: REFER TO "HOOKED REINFORCEMENT DEVELOPMENT LENGTH SCHEDULE" WHEN STRAIGHT 'l_d' IN TENSION CANNOT BE ACCOMMODATED IN THE CONCRETE SECTION.



LAP SPLICE: LAP SPLICES IN ADJACENT BARS SHALL BE STAGGERED A MINIMUM OF 24 INCHES. WELDED OR MECHANICAL SPLICES IN ADJACENT BARS SHALL BE STAGGERED A MINIMUM OF 30 INCHES.

| BAR SIZE | DEVELOPMENT LENGTH, (l _d), inches | | | | | | | | | LAP SPLICE LENGTH, inches | | | | | | | | |
|----------|---|------|------|------------|------|------|-------------------------|------|------|---------------------------|------|------|------------|------|------|------------------------|--|--|
| | TENSION DEVELOPMENT LENGTH | | | | | | COMPRESSION DEV. LENGTH | | | TENSION LAP LENGTH | | | | | | COMPRESSION LAP LENGTH | | |
| | TOP BARS | | | OTHER BARS | | | ALL BARS | | | TOP BARS | | | OTHER BARS | | | ALL BARS | | |
| | 3000 | 4000 | 5000 | 3000 | 4000 | 5000 | 3000 | 4000 | 5000 | 3000 | 4000 | 5000 | 3000 | 4000 | 5000 | f' _c ≥ 3000 | | |
| #3 | 21" | 18" | 16" | 16" | 14" | 13" | 8" | 8" | 8" | 28" | 24" | 22" | 21" | 18" | 16" | 12" | | |
| #4 | 28" | 25" | 22" | 22" | 19" | 17" | 11" | 10" | 9" | 37" | 32" | 29" | 28" | 25" | 22" | 15" | | |
| #5 | 36" | 31" | 28" | 27" | 24" | 21" | 14" | 12" | 11" | 46" | 40" | 36" | 36" | 31" | 28" | 19" | | |
| #6 | 43" | 37" | 33" | 33" | 28" | 25" | 16" | 14" | 14" | 56" | 48" | 43" | 43" | 37" | 33" | 23" | | |
| #7 | 62" | 54" | 48" | 48" | 42" | 37" | 19" | 17" | 16" | 81" | 70" | 63" | 62" | 54" | 48" | 28" | | |
| #8 | 71" | 62" | 55" | 55" | 47" | 42" | 22" | 19" | 18" | 93" | 80" | 72" | 71" | 62" | 55" | 30" | | |
| #9 | 80" | 69" | 62" | 62" | 53" | 46" | 25" | 21" | 20" | 104" | 90" | 81" | 80" | 69" | 62" | 34" | | |
| #10 | 88" | 77" | 69" | 68" | 59" | 53" | 27" | 24" | 23" | 116" | 100" | 90" | 89" | 77" | 69" | 38" | | |
| #11 | 98" | 85" | 76" | 75" | 65" | 58" | 30" | 26" | 25" | 127" | 110" | 99" | 98" | 85" | 76" | 42" | | |

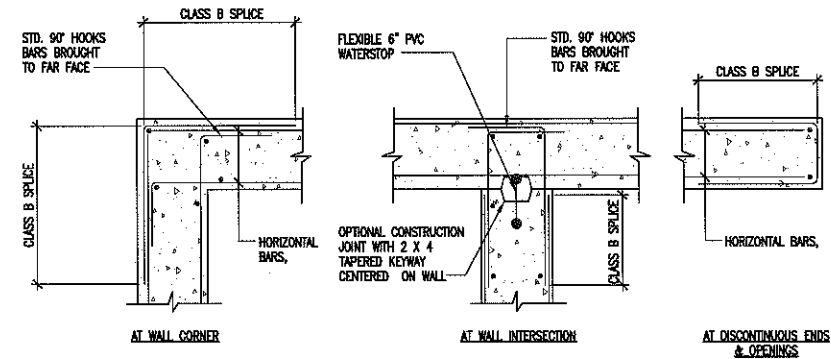
SEE NOTES BELOW FOR COVER, SPACING AND BUNDLE BAR FACTORS.

NOTES:

- ALWAYS USE TENSION DEVELOPMENT LENGTH AND TENSION LAP SPLICE LENGTH VALUES, EXCEPT WHEN THE PLANS OR DETAILS MENTION SPECIFICALLY THE COMPRESSION ONES.
- TABULATED DEVELOPMENT AND LAP SPLICE LENGTHS ARE BASED ON REINFORCING YIELD STRENGTH F_y = 80 KSI, NORMAL WEIGHT CONCRETE AND CLASS B LAPS.
- TOP BARS ARE DEFINED AS HORIZONTAL BARS WITH MORE THAN 12 INCHES OF FRESH CONCRETE CAST IN THE MEMBER BELOW THE DEVELOPMENT LENGTH OR SPLICE. WALL REINFORCEMENT IS CLASSIFIED AS OTHER BARS.
- FOR LIGHTWEIGHT AGGREGATE MULTIPLY THE ABOVE VALUES BY 1.3.
- WHEN DIFFERENT BAR DIAMETERS ARE SPLICED, USE LARGER BAR LAP SPLICE LENGTH.
- ALL TABULATED VALUES ARE MINIMUM LENGTHS. IN CASE OF CONFLICT WITH THE PLANS, SECTIONS OR DETAILS, USE THE LONGER LENGTH.
- WELDED AND/OR MECHANICAL SPLICES MAY BE USED AT THE GENERAL CONTRACTOR'S OPTION PROVIDED THAT THE SPLICE IS CAPABLE OF DEVELOPING AT LEAST 125 PERCENT OF THE YIELD STRENGTH OF THE LARGER BAR IN TENSION. THE GENERAL CONTRACTOR SHALL USE WELDED OR MECHANICAL SPLICES WHERE LAP SPLICES WOULD CREATE BAR CONGESTION THAT WOULD INTERFERE WITH THE PLACING AND FINISHING OF THE CONCRETE. SPLICES IN "TENSION-TIE" MEMBERS SHALL BE FULL WELDED OR FULL MECHANICAL SPLICES. WHERE WELDED AND/OR MECHANICAL SPLICES ARE TO BE USED, THE GENERAL CONTRACTOR SHALL SUBMIT FULL DATA ON THE PROPOSED MATERIALS, PROCEDURES AND INSTALLATION INSTRUCTIONS TO THE ENGINEER FOR REVIEW AS A SHOP DRAWING SUBMISSION.
- ALL STRAIGHT BAR DEVELOPMENTS AND SPLICES SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF ACI 318. ALL WELDED SPLICES SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF AWS D1.4.
- db = BAR DIAMETER

7 STRAIGHT REINFORCEMENT DEVELOPMENT LENGTH AND SPLICE LENGTH SCHEDULE

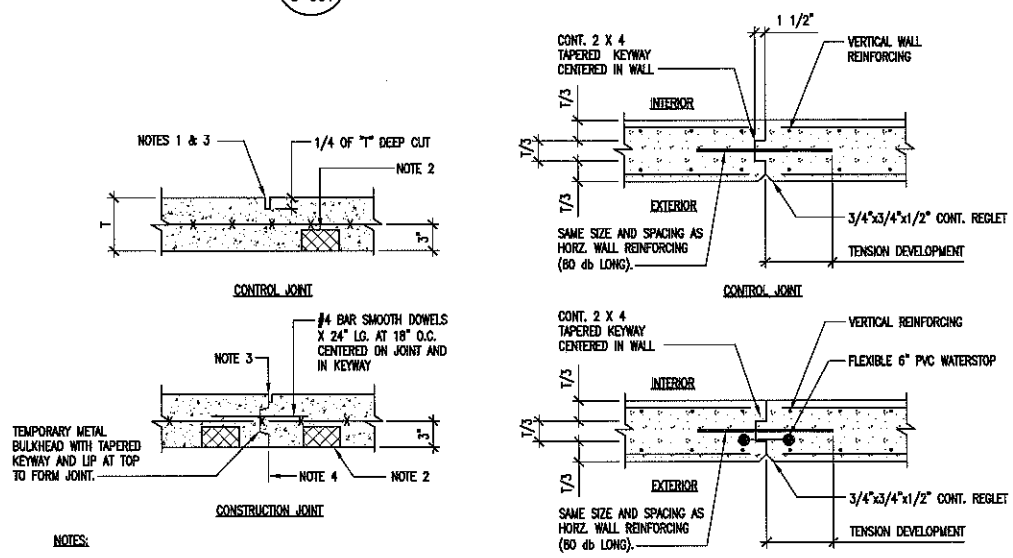
SCALE: NTS



- NOTES:**
- COORDINATE WITH SECTIONS AND DETAILS.
 - SIZE AND SPACING OF BARS TO MATCH HORIZONTAL WALL REINF.

5 TYPICAL HORIZONTAL WALL REINFORCEMENT DETAILS

SCALE: NTS



- NOTES:**
- ALL SAW CUTTING SHALL TAKE PLACE WITHIN 24 HOURS AFTER THE CONCRETE IS CAST, BUT NOT BEFORE CONCRETE HAS CURED SUFFICIENTLY TO PREVENT RAVELING.
 - PROVIDE DENSE CONCRETE BRICKS FOR W.M.M. SUPPORT AT 3"-6" O.C. EACH DIRECTION THROUGHOUT ALL THE SLAB-ON-GRADE AREAS.
 - REFER TO ARCHITECTURAL DRAWINGS FOR JOINT SEALANTS.
 - CONSTRUCTION JOINTS SHALL ALIGN WITH DEFINED CONTROL JOINT LOCATION.

2 SLAB ON GRADE JOINT DETAILS

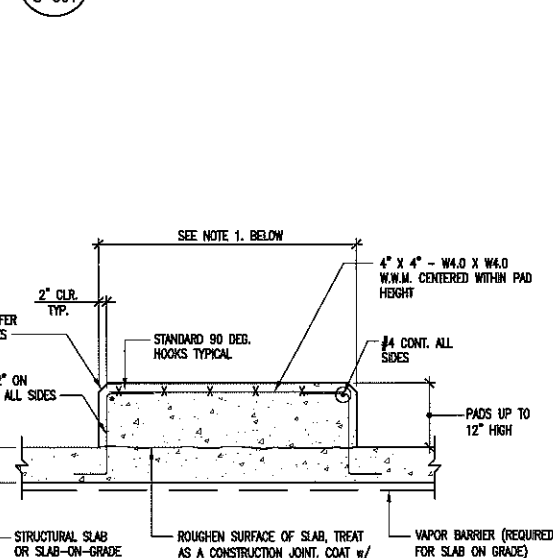
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1 FOUNDATION WALL JOINT DETAILS

SCALE: NTS

6 EXTERIOR SIDEWALK EDGE / APRON PAD DETAIL

SCALE: NTS



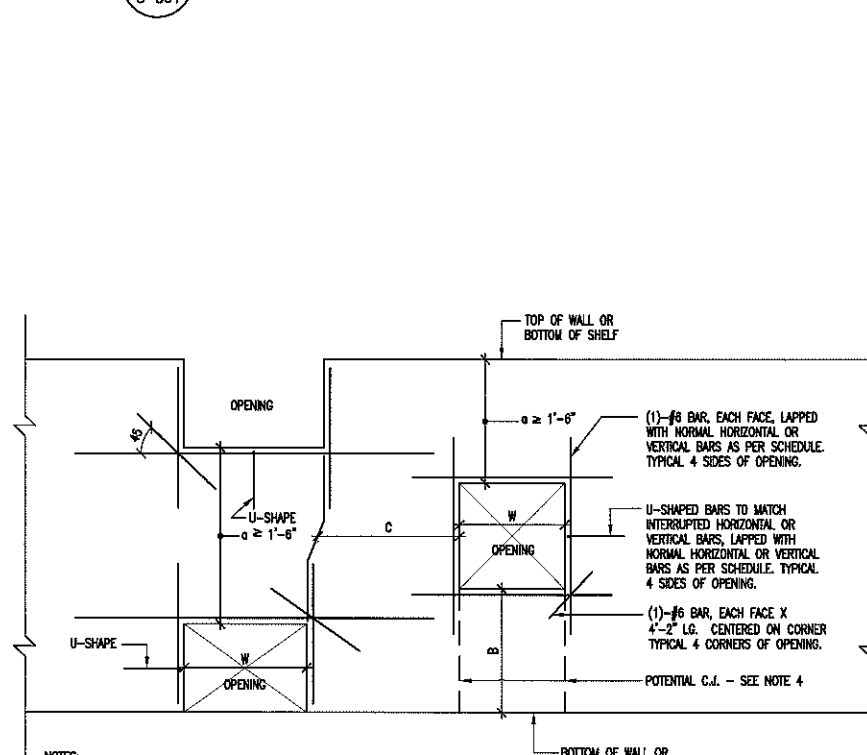
- NOTE:**
- THE EXACT SIZE, NUMBER, HEIGHT, SHAPE AND LOCATIONS OF EQUIPMENT (HOUSEKEEPING) PADS SHALL BE DETERMINED BY THE GENERAL CONTRACTOR AFTER APPROVAL OF SHOP DRAWINGS FOR EQUIPMENT. ANCHOR BOLTS WHERE REQUIRED SHALL BE SIZED AND LOCATED ACCORDING TO THE EQUIPMENT MANUFACTURER'S REQUIREMENTS.

3 HOUSEKEEPING PAD DETAIL

SCALE: NTS

8 HOOKED REINFORCEMENT TENSION DEVELOPMENT LENGTH SCHEDULE

SCALE: NTS



- NOTES:**
- NORMAL HORIZONTAL AND VERTICAL REINFORCING NOT SHOWN FOR CLARITY.
 - OPENINGS ARE SHOWN SQUARE AND RECTANGULAR. CIRCULAR OPENINGS REQUIRE THE SAME DETAILS AND REINFORCING.
 - WHEN DIMENSION "a" IS ≤ 0.5a, REPLACE U-SHAPED BARS WITH CLOSED STIRRUPS.
 - WHERE DIMENSION "b" IS SMALL AND PLACING/FINISHING OF CONCRETE BELOW THROUGH CONCRETE WALLS/OPENING IS DIFFICULT, THE GENERAL CONTRACTOR MAY ELECT TO ADD VERTICAL CONSTRUCTION JOINTS ALIGNING WITH THE EDGES OF THE OPENINGS PROVIDED THAT ALL REINFORCING IS CONTINUOUS THROUGH THE JOINTS AND A 1"-1 1/2" INCH BY 3"-4" INCH TAPERED KEYWAY IS FORMED IN THE JOINTS.
 - WHEN DIMENSION "a" IS LESS THAN 6'-0", THE ENGINEER MAY REQUIRE SPECIAL REINFORCING AROUND THE OPENINGS. SPACE CLOSED STIRRUPS TO MATCH VERTICAL WALL REINFORCING BUT NOT GREATER THAN a/2.
 - REFER TO ALL THE CONTRACT DRAWINGS TO DETERMINE THE SIZES AND LOCATIONS OF ALL OPENINGS REQUIRED.

4 OPENING THROUGH CONCRETE WALL DETAILS

SCALE: NTS



CLOCK TOWER AMERICAN SCHOOL FOR THE DEAF

139 North Main Street
West Hartford, Connecticut

Prepared For
VERIZON WIRELESS

Project No: 2013.02

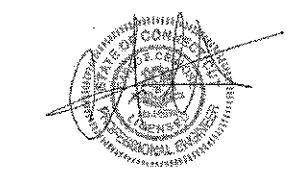


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Drawn by: JRM
Drawn Date: 07.29.13
Reviewed by: JFC
Project No: 2013.02 (CENTEK Proj No. 12027.00)
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REINFORCED CONCRETE DETAILS AND SCHEDULES

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Sheet Number: Revision:

S-301

Project No: 2013.02

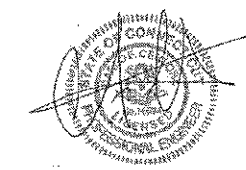
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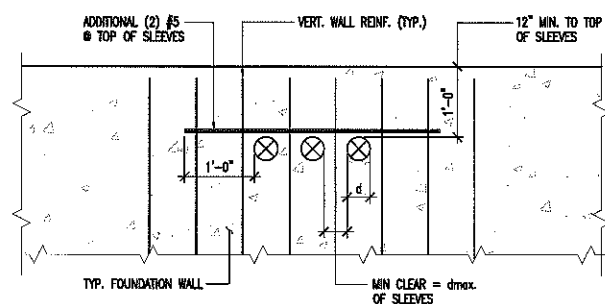
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 Drawn Date: 07.28.13
 Reviewed by: CFC
 Project No: 2013.02 (CENTEK Proj No. 12027.00)
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Sheet Title:
**TYPICAL CONCRETE
 DETAILS**

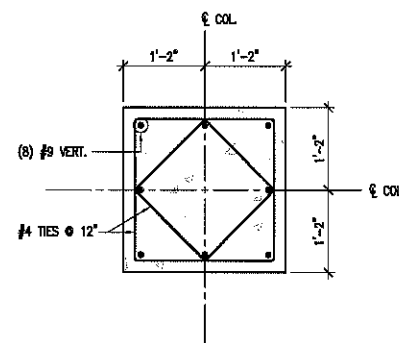
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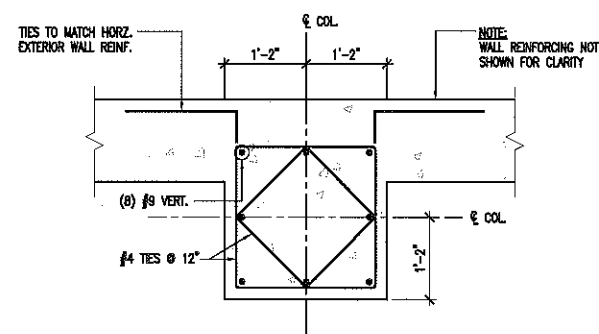
S-302



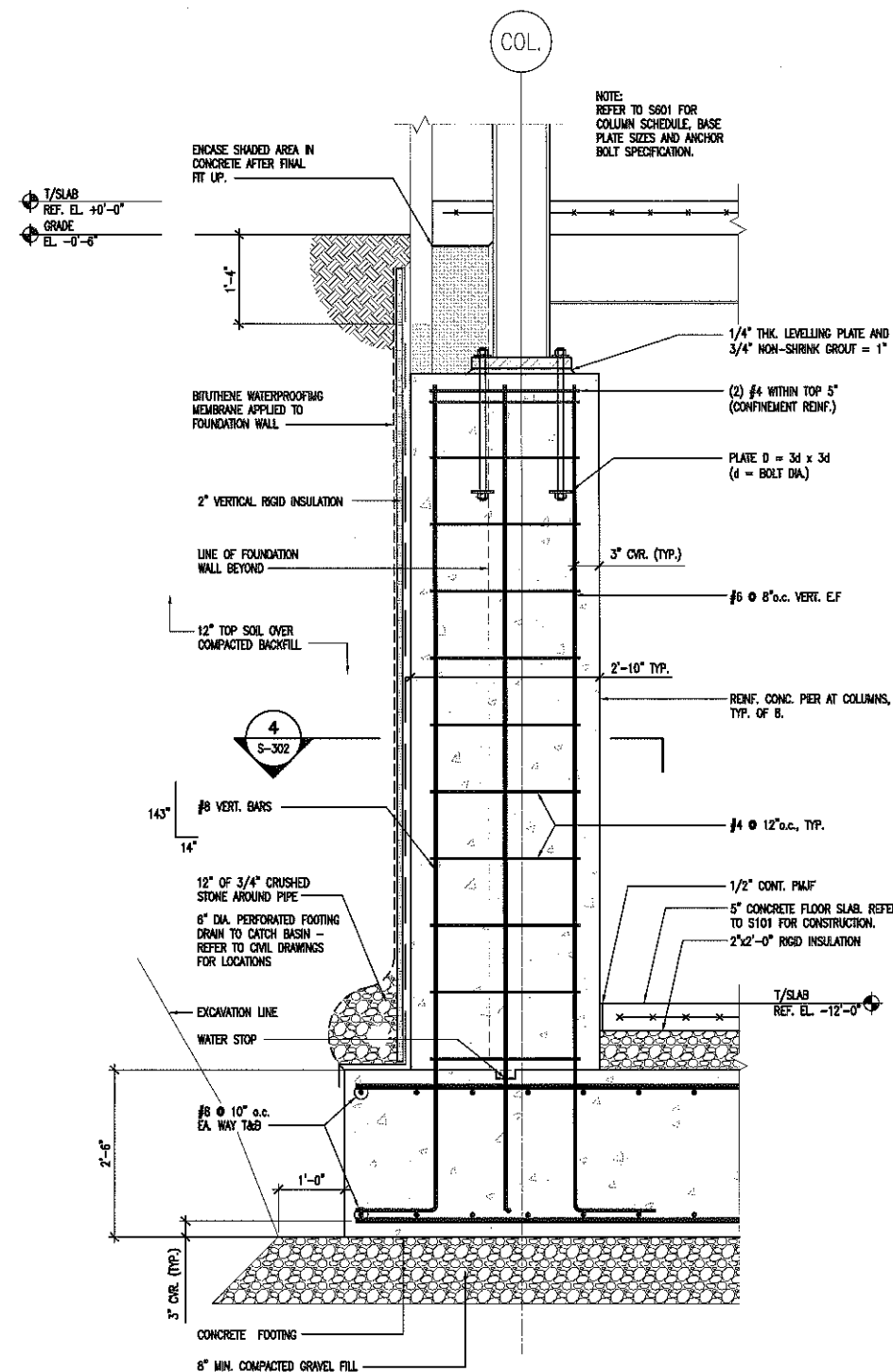
5
 S-302
**TYP. MULTI-SLEEVE PENETRATION
 DETAIL AT FOUNDATION WALL**
 SCALE: NTS



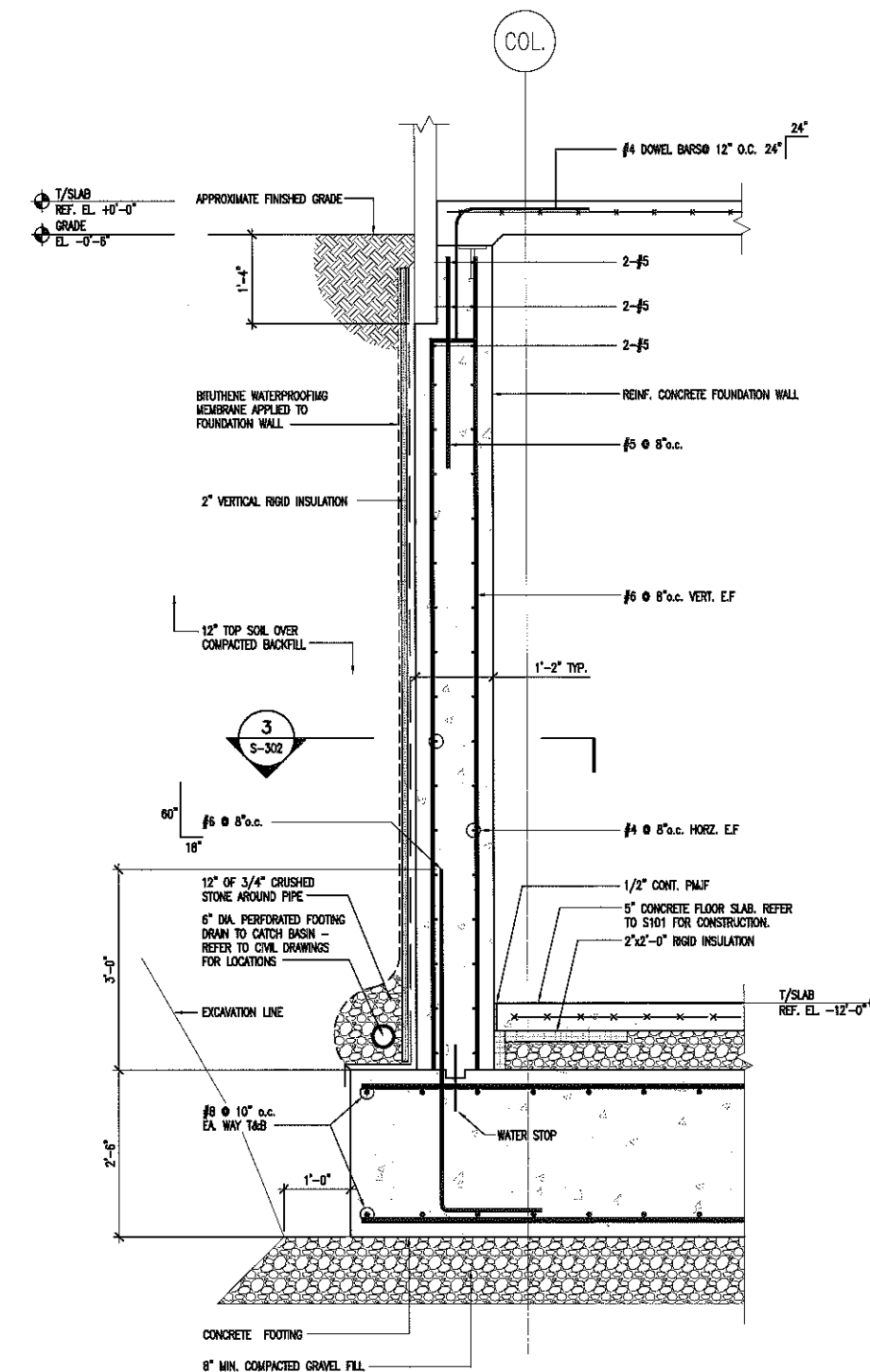
4
 S-302
**TYPICAL SECTION THROUGH
 REINF. CONCRETE PIER**
 SCALE: 3/4" = 1'-0"



3
 S-302
**TYPICAL SECTION THROUGH REINF.
 CONCRETE PIER AT FOUNDATION WALL**
 SCALE: 3/4" = 1'-0"



2
 S-302
FOUNDATION WALL SECTION AT EXT. COLUMN.
 SCALE: 3/4" = 1'-0"



1
 S-302
FOUNDATION WALL SECTION
 SCALE: 3/4" = 1'-0"

Project
**CLOCK TOWER
 AMERICAN SCHOOL FOR
 THE DEAF**

139 North Main Street
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Prepared For
VERIZON WIRELESS

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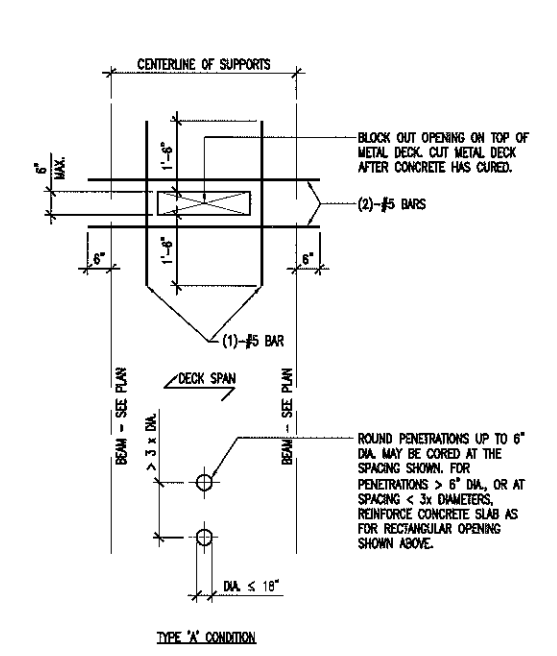
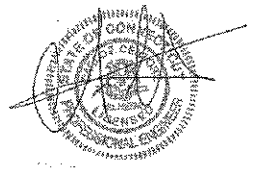
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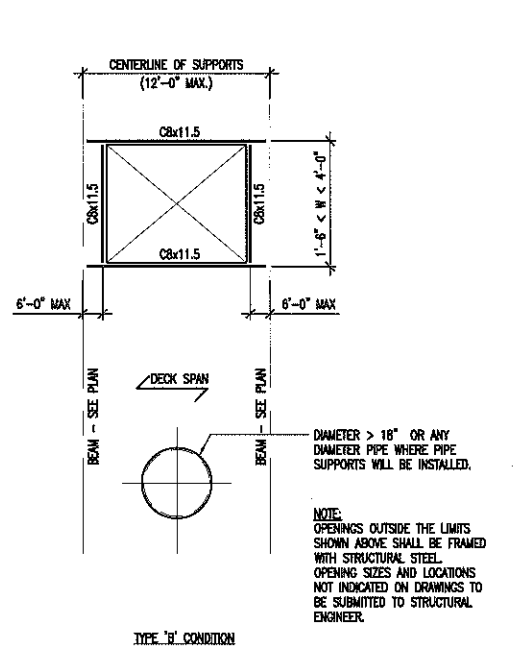
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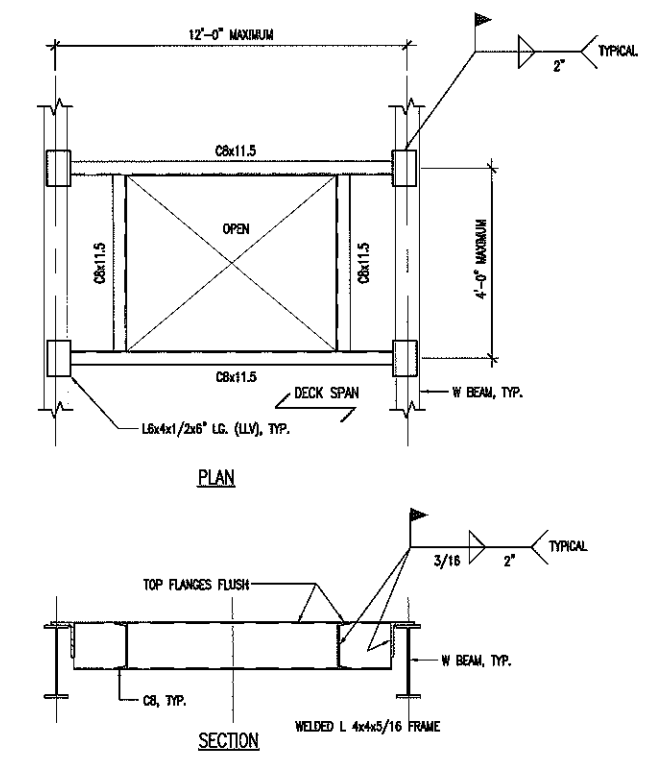
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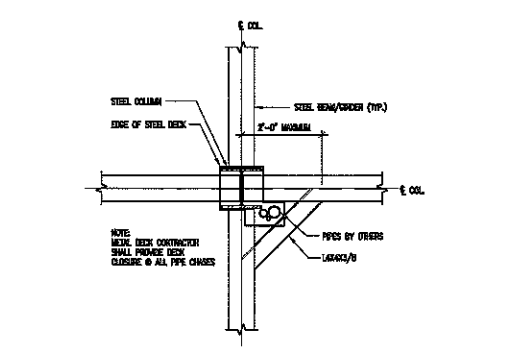
6 TYPICAL COMPOSITE FLOOR AND ROOF DECK
 CONSTRUCTION OPENING REINFORCING DETAILS
 S-401 SCALE: NTS



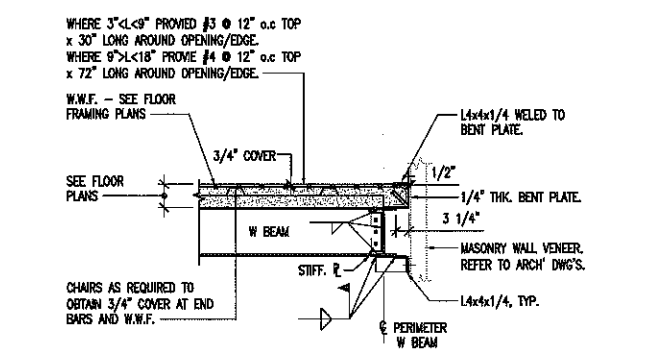
5 TYPICAL DROP-IN FRAME AT
 MISCELLANEOUS ROOF OPENINGS
 S-401 SCALE: NTS



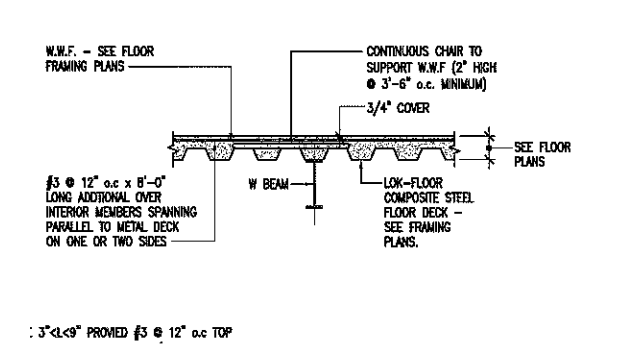
4 METAL DECK ATTACHMENT PATTERN
 S-401 SCALE: NTS



3 DECK SUPPORT AT COLUMNS
 S-401 SCALE: NTS



2 TYPICAL FLOOR CONSTRUCTION DETAIL
 S-401 SCALE: 1/2" = 1'-0"



1 TYPICAL FLOOR CONSTRUCTION DETAIL
 S-401 SCALE: 1/2" = 1'-0"

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Drawn by: JRM
 Drawn Date: 07.28.13
 Reviewed by: CFC
 Project No: 2013.02 (CENTEK Proj No. 12027.00)
 Scale: AS NOTED

Sheet Title:
**TYPICAL STEEL
 DETAILS**

Original drawing in D. Do not scale contents of this drawing.
 Sheet Number: Revision:

S-401

Project
**CLOCK TOWER
 AMERICAN SCHOOL FOR
 THE DEAF**

139 North Main Street
 West Hartford, Connecticut

Prepared For
VERIZON WIRELESS

Project No: 2013.02

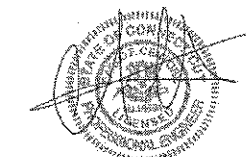
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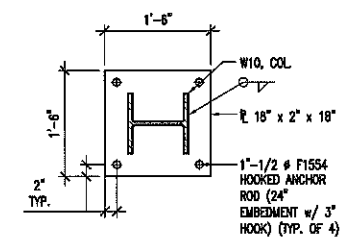
Drawn by: JRM
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Sheet Title:
**COLUMN SCHEDULE
 AND BASE PLATE
 DETAILS**

Original drawing in D. Do not scale contents of this drawing.
 Sheet Number: Revision:

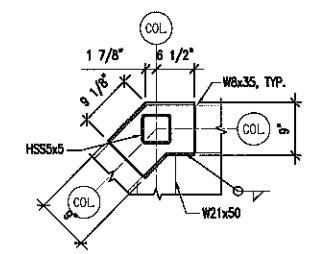
S-501

| COLUMN SCHEDULE | | | | | | | |
|---|---------------------|---------------------|---------------------|-------------------------------|-----------------------------------|-------------------------|----------------|
| COLUMN | A-1.0, A-2.0, A-4.0 | B-1.0, B-2.0, B-4.0 | C-1.0, C-2.0, C-4.0 | A1-2, A1-3, A2-1.1, A2-3.1 | B2-1.1, B2-3.1, B3-2.0, B3-3.0 | A3-2.1, A3-2.2 | B1-2.1, B1-2.2 |
| LEVEL | | | | | | | |
| T/STEEL ELEV = +252'-3" | | | | | | HSS6x6x1/4 | HSS6x6x1/4 |
| Q/STEEL (PLATFORM LV.) ELEV = +244'-5" | | | | | | | |
| Q/STEEL (PLATFORM LV.) ELEV = +235'-5" | | | | | | BASE PLATE 'D', TYP. | |
| Q/STEEL (PLATFORM LV.) ELEV = +226'-5" | | | | | | HSS6x6x1/4 | HSS6x6x1/4 |
| T/STEEL (CUPOLA ROOF) ELEV = +213'-0" | | | | | | | |
| T/STEEL (CUPOLA FLR.) ELEV = +204'-3" | | | | HSS6x6x1/4 | HSS6x6x1/4 | | |
| T/STEEL (MAIN ROOF) ELEV = +196'-5" | | | | | | | |
| T/STEEL (THIRD FLR.) ELEV = +186'-0" | W10x54 | W10x54 | W10x54 | | | | |
| T/STEEL (SECOND FLR.) ELEV = +174'-0" | W10x54 | W10x54 | W10x54 | | | | |
| T/STEEL (FIRST FLR.) ELEV = +162'-0" | W10x54 | W10x54 | W10x54 | | | | |
| T/SLAB (LOWER LEVEL) ELEV = +150'-5" | | | | | | | |
| L=LENGTH | 18" | 18" | 18" | SEE DT'L | SEE DT'L | 12" | 12" |
| W=WIDTH | 18" | 18" | 18" | SEE DT'L | SEE DT'L | 12" | 12" |
| T=THICKNESS | 2" | 2" | 2" | 1-1/2" | 1-1/2" | 1-1/2" | 1-1/2" |
| BASE PLATE TYPE | A | A | A | B | B | C | C |

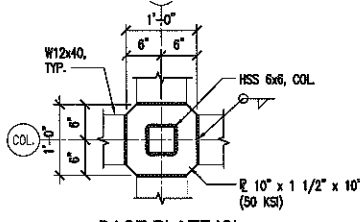


NOTE
 PROVIDE A 18" x 1/4" x 18" STEEL LEVELING
 PLATE AND 1" MIN. NON-SHRINK GROUT
 BENEATH BASE PLATE.

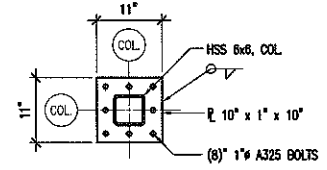
BASE PLATE 'A'
1 TYPICAL BASE PLATE DETAILS
 S-601 SCALE: 3/4" = 1'-0"



BASE PLATE 'B'



BASE PLATE 'C'



BASE PLATE 'D'



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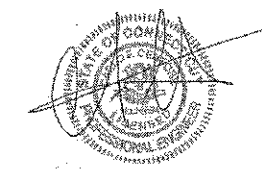
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 Scale: AS NOTED

Sheet Title:

**MECHANICAL LEGEND
 AND SCHEDULES**

Original drawing in D. Do not scale contents of this drawing.

Sheet Number: Revision:

M-001

| AIR HANDLING UNIT SCHEDULE | | | | | | | | | | | | | | | | |
|----------------------------|---------|--------------|------|------|----------|------------|------------------------|-------------------|----------------------------|----------------------------|-------------------|-------------------|----------------------------|-------|----|---------|
| SYMBOL | MAKE | MODEL NUMBER | TYPE | CFM | CFM O.A. | ESP IN. WG | MOTOR DATA AMP-VOLT-PH | COOLING COIL TYPE | COOLING CAPACITY TOTAL MBH | COOLING CAPACITY SENS. MBH | EAT DB/WB (DEG F) | LAT DB/WB (DEG F) | HEATING CAPACITY TOTAL MBH | TYPE | KW | REMARKS |
| AHU-1 | CARRIER | FA4CNF060005 | V | 2000 | 0 | - | 5.2/208/1 | DX | 57 | 45 | 77/65 | 55/53 | 15.7 | ELEC. | 5 | ALL |
| AHU-2 | CARRIER | FA4CNF060005 | V | 2000 | 0 | - | 5.2/208/1 | DX | 57 | 45 | 77/65 | 55/53 | 15.7 | ELEC. | 5 | ALL |
| AHU-3 | CARRIER | FA4CNF060005 | V | 2000 | 0 | - | 5.2/208/1 | DX | 57 | 45 | 77/65 | 55/53 | 15.7 | ELEC. | 5 | ALL |
| AHU-4 | CARRIER | FA4CNF060005 | V | 2000 | 0 | - | 5.2/208/1 | DX | 57 | 45 | 77/65 | 55/53 | 15.7 | ELEC. | 5 | ALL |

REMARKS:
 1. PROVIDE WITH COMBINATION MOTOR STARTER/FUSED DISCONNECT SWITCH.
 2. MAXIMUM COIL FACE VELOCITY SHALL BE 500 FPM
 3. PROVIDE WITH 1" 30% AIR FILTER.
 4. PROVIDE LEAD/LAG CONTROLLER WITH INTEGRAL THERMOSTAT.
 5. COORDINATE HUMIDISTAT MODEL NUMBER WITH VERIZON WIRELESS.
 6. PROVIDE WITH FREEZESTAT.
 7. PROVIDE FLOOR MOUNTED CONDENSATE PUMPS FOR EACH AC UNIT EQUIPPED WITH CHECK VALVE AND INTEGRAL SUMP PUMP LITTLE GIANT MODEL VCL-24, RATED AT 120/60 HZ/1Ø 15 GPH @ 10 FEET OF HEAD.
 8. PROVIDE WITH SEISMIC ISOLATORS.
 9. PROVIDE SMOKE DETECTOR WIRED TO SHUT DOWN UNIT.

| HVAC DUCTWORK SYMBOLS | |
|-----------------------|---|
| | DOUBLE LINE DUCTWORK |
| | FLEXIBLE DUCTWORK |
| | RECTANGULAR RETURN/EXHAUST DUCT RISER |
| | RECTANGULAR SUPPLY AIR GRILLE |
| | RECTANGULAR RETURN AIR GRILLE |
| | WALL MOUNTED THERMOSTAT |
| | REVERSE ACTING THERMOSTAT |
| | HYDROGEN DETECTOR |
| | PIPE RISER |
| | PIPE DROP |
| | EXHAUST FAN |
| | LOUVER |
| | MOTORIZED AUTOMATIC DAMPER FIRE DAMPER |
| | LOCAL ALARM LIGHT |
| | REFRIGERANT SUCTION LINE |
| | REFRIGERANT LIQUID LINE |
| | NATURAL GAS PIPING |
| | BURIED NATURAL GAS PIPING |

| ABBREVIATIONS | |
|------------------------------|-----------------------------|
| AFF ABOVE FINISHED FLOOR | AHU AIR HANDLING UNIT |
| BTU BRITISH THERMAL UNIT | MBH BTU PER HOUR (THOUSAND) |
| CFM CUBIC FEET PER MINUTE | T THERMOSTAT |
| EAT ENTERING AIR TEMPERATURE | TYP TYPICAL |
| EF-EXHAUST FAN | V VOLTS |
| ESP EXTERNAL STATIC PRESSURE | VEL VELOCITY |
| FPM FEET PER MINUTE | W WATT |
| HP HORSEPOWER | DB DRY BULB |
| KW KILOWATTS | WB WET BULB |
| LAT LEAVING AIR TEMPERATURE | CP CONTROL PANEL |
| LLL REFRIGERANT LIQUID LINE | L-# LOUVER |
| RSL REFRIGERANT SUCTION LINE | FC FLEX CONNECTION |

| FAN SCHEDULE | | | | | | | |
|--------------|-----------|--------------|--------|-----------|-----------------------------|------------|-----------|
| SYMBOL | MAKE | MODEL NUMBER | CFM | ESP IN/WG | MOTOR DATA HP/WATTS-VOLT-PH | DRIVE TYPE | REMARKS |
| EF-1 | FANTECH | FG 8XL | 428 | 0.4 | 142W/120/1 | - | ALL |
| EF-2 | GREENHECK | SBE-2L30-15 | 12,150 | 0.2 | 2HP/208/3 | - | 1,2,4,5,6 |
| EF-3 | GREENHECK | SBE-2L30-15 | 12,150 | 0.2 | 2HP/208/3 | - | 1,2,4,5,6 |
| EF-4 | FANTECH | FG 8XL | 428 | 0.4 | 142W/120/1 | - | ALL |
| SF-1 | FANTECH | FG 8XL | 428 | 0.4 | 142W/120/1 | - | ALL |
| SF-2 | FANTECH | FG 8XL | 428 | 0.4 | 142W/120/1 | - | ALL |

REMARKS:
 1. PROVIDE SERVICE SWITCH.
 2. PROVIDE MOTORIZED DAMPER.
 3. POWER FED FROM INVERTOR CONNECTED TO EMERGENCY BATTERIES.
 COORDINATE WITH ELECTRICAL CONTRACTOR.
 4. PROVIDE WALL MOUNT HOUSING, FAN GUARD, GRAVITY BACKDRAFT DAMPER.
 5. COORDINATE SIZE WITH WALL OPENING.
 6. COORDINATE LOCATION WITH OTHER TRADES

| AIR COOLED CONDENSING UNIT SCHEDULE | | | | | | | | | | |
|-------------------------------------|---------|--------------|------|---------------|----------------|----------------|--------------|--------------------|-----------------------------|---------|
| SYMBOL | MAKE | MODEL NUMBER | TYPE | SYSTEM SERVED | TOTAL CAP. MBH | SENS. CAP. MBH | SUCTION TEMP | AMB AIR TEMP DEG F | ELECTRICAL DATA MCA-VOLT-PH | REMARKS |
| CU-1 | CARRIER | 24ACS360A003 | AC | AHU-1 | 57 | 45 | 42.5 | 91.0 | 32.5-208-1 | ALL |
| CU-2 | CARRIER | 24ACS360A003 | AC | AHU-2 | 57 | 45 | 42.5 | 91.0 | 32.5-208-1 | ALL |
| CU-3 | CARRIER | 24ACS360A003 | AC | AHU-3 | 57 | 45 | 42.5 | 91.0 | 32.5-208-1 | ALL |
| CU-4 | CARRIER | 24ACS360A003 | AC | AHU-4 | 57 | 45 | 42.5 | 91.0 | 32.5-208-1 | ALL |

TYPE: AIR COOLED
 REMARKS:
 1. PROVIDE WITH UNIT MOUNTED FUSED DISCONNECT SWITCH
 2. PROVIDE WITH LIQUID & SUCTION LINE, FILTER DRYERS, SIGHT GLASS AND ALL OTHER REFRIGERANT SPECIALTIES.
 3. PROVIDE WITH LOW AMBIENT HEAD PRESSURE CONTROL, ANTI SHORT CYCLING TIMER.
 4. PROVIDE WITH CRANKCASE HEATER.
 5. PROVIDE WITH REFRIGERANT SOLENOID VALVE
 6. PROVIDE WITH REFRIGERANT SOLENOID VALVE COIL.
 7. PROVIDE WITH LOW PRESSURE SWITCH.
 8. PROVIDE EVAPORATOR FREEZE THERMOSTAT.
 9. PROVIDE COMPRESSOR START ASSIST CAPACITOR AND RELAY.
 10. PROVIDE BALL BEARING FAN MOTOR.
 11. PROVIDE WINTER START CONTROL.

| LOUVER SCHEDULE | | | | | | | | | |
|-----------------|-----------|--------------|--------|-----------------|--------------|---------------|----------------|-----------|---------|
| SYMBOL | MAKE | MODEL NUMBER | CFM | VELOCITY FT/MIN | FREE AREA SF | NOM. WIDTH IN | NOM. HEIGHT IN | PD IN. WG | REMARKS |
| L-1 | GREENHECK | ESD-603 | 6,000 | 179 | 33.51 | 120 | 72 | - | ALL |
| L-2 | GREENHECK | ESD-603 | 6,000 | 179 | 33.51 | 120 | 72 | - | ALL |
| L-3 | GREENHECK | ESD-603 | 24,300 | 725 | 33.51 | 120 | 72 | - | ALL |
| L-4 | GREENHECK | ESD-603 | 24,300 | 725 | 33.51 | 120 | 72 | - | ALL |

REMARKS:
 1. PROVIDE WITH BIRD SCREEN.
 2. PROVIDE WITH EXTENDED SILL.
 3. PROVIDE WITH BAKED ENAMEL FINISH. COLOR TO MATCH EXISTING BUILDING AND BY APPROVED BY OWNER.
 4. COORDINATE ALL LOUVER SIZES IN FIELD PRIOR TO ORDERING OR INSTALLATION.

| VARIABLE FREQUENCY DRIVE SCHEDULE | | | | | | | | |
|-----------------------------------|------------------|-----|------------|------------------------|------------------------------|----------------|--|-------|
| NUMBER | DRIVEN EQUIPMENT | MHP | DRIVE TYPE | NUMBER OF PULSES INPUT | IS THE MOTOR BEING OVERSIZED | LUGS OVERSIZED | ADDITIONAL DEVICES TO REDUCE HARMONICS (CURRENT AND VOLTAGE) | NOTES |
| VFD-1 | EF-2 | 2 | PWM | 6 | YES | YES | AS REQUIRED TO MEET THE SPECIFIED | |
| VFD-2 | EF-3 | 2 | PWM | 6 | YES | YES | AS REQUIRED TO MEET THE SPECIFIED | |



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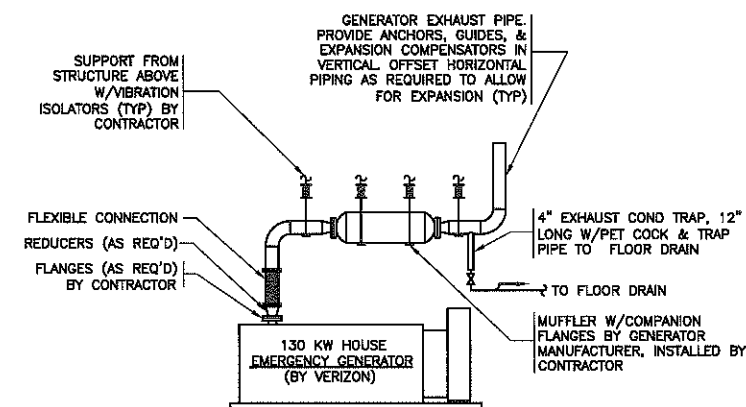
Sheet Title:
**SITE UTILITY PLAN -
 MECHANICAL**

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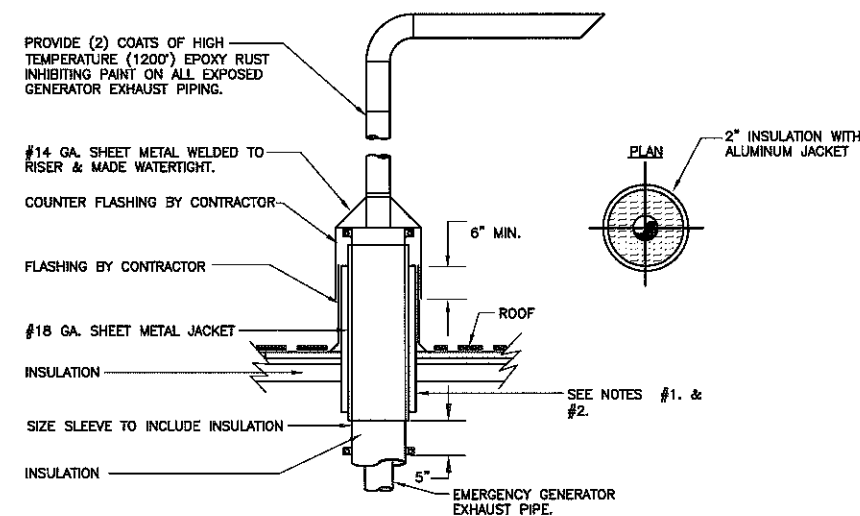
MSU-101

GENERAL NOTES

1. THE MECHANICAL SUBCONTRACTOR SHALL COORDINATE ALL WORK TO BE PERFORMED WITH THE GENERAL AND ELECTRICAL CONTRACTORS. ANY WORK DONE BY THIS CONTRACTOR WHICH INTERFERES WITH WORK BY OTHERS AND WHICH WAS NOT FIRST COORDINATED SHALL BE REMOVED AND RELOCATED AT CONTRACTOR'S EXPENSE.
2. THIS CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFICATION OF ALL UTILITIES AND THE PLACEMENT OF ALL EQUIPMENT PRIOR TO THE START OF HIS WORK. NO EXTRAS WILL BE ALLOWED DUE TO EQUIPMENT LOCATION CHANGE FROM THAT ON THE DRAWING.
3. IT IS THE INTENT THAT THE WORK SHALL BE COMPLETE IN EVERY RESPECT AND THAT ANY MATERIAL OR WORK NOT SPECIFICALLY MENTIONED OR SHOWN ON THE DRAWINGS BUT NECESSARY TO FULLY COMPLETE THE WORK SHALL BE PROVIDED.
4. THE LOCATION OF SOME ITEMS SHOWN ON THE DRAWINGS MAY BE APPROXIMATE AND THE OWNER SHALL HAVE THE RIGHT TO MAKE MINOR REVISIONS BEFORE THE WORK IS INSTALLED WITHOUT ADDITIONAL COST.
5. THE WORK SHALL BE PERFORMED IN ACCORDANCE WITH ALL APPLICABLE CODES AND OWNER'S MINIMUM REQUIREMENTS. IN ALL CASES, THE MORE STRINGENT SHALL APPLY.
6. THIS CONTRACTOR SHALL FURNISH AND INSTALL ALL NECESSARY VALVES, AND ALL CONTROL DEVICES REQUIRED FOR PROPER COMPLETION OF UTILITY PIPING.
7. PROVIDE CHROME PLATED ESCUTCHEONS WHERE PIPES PENETRATE FLOORS, WALLS OR CEILINGS.
8. ALL GAS PIPING SHALL BE LABELED ACCORDING TO ALL APPLICABLE STATE AND LOCAL CODES.

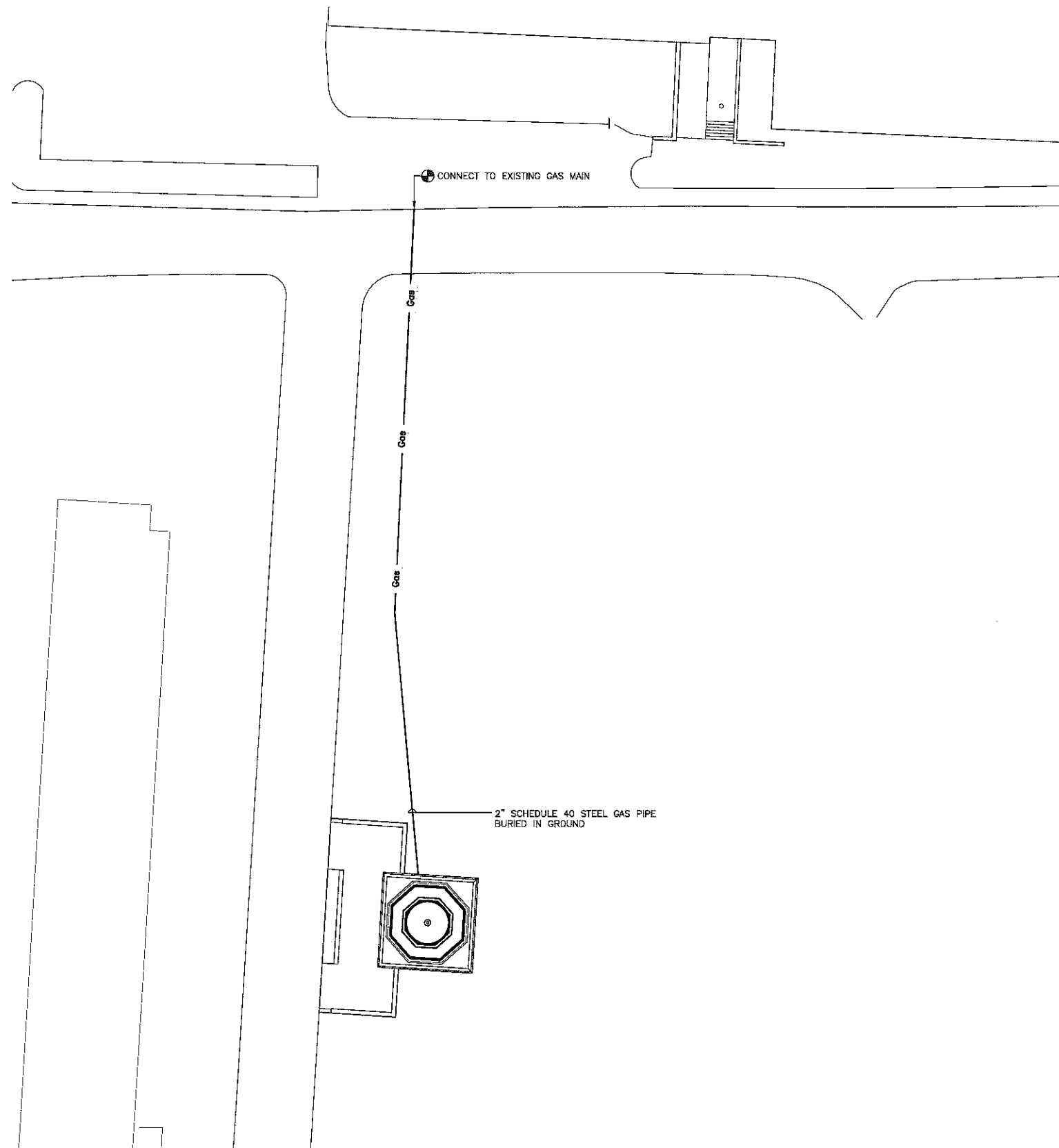


2 GENERATOR EXHAUST DETAIL
 MSU-101 N.T.S.

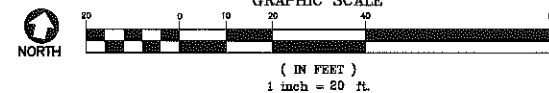


- NOTES:**
1. PACK ANNULAR OPENING IN SLEEVE W/FIRE RETARDANT ROPE.
 2. RING PLATE WELDED TO SLEEVE AND FASTENED TO ROOF.
 3. STACK SHALL BE LOCATED MIN. 30'-0" FROM ANY AIR INTAKE OR OPERABLE WINDOW

3 GENERATOR STACK DETAIL
 MSU-101 N.T.S.



1 SITE UTILITY PLAN
 MSU-101 SCALE: 1" = 20'





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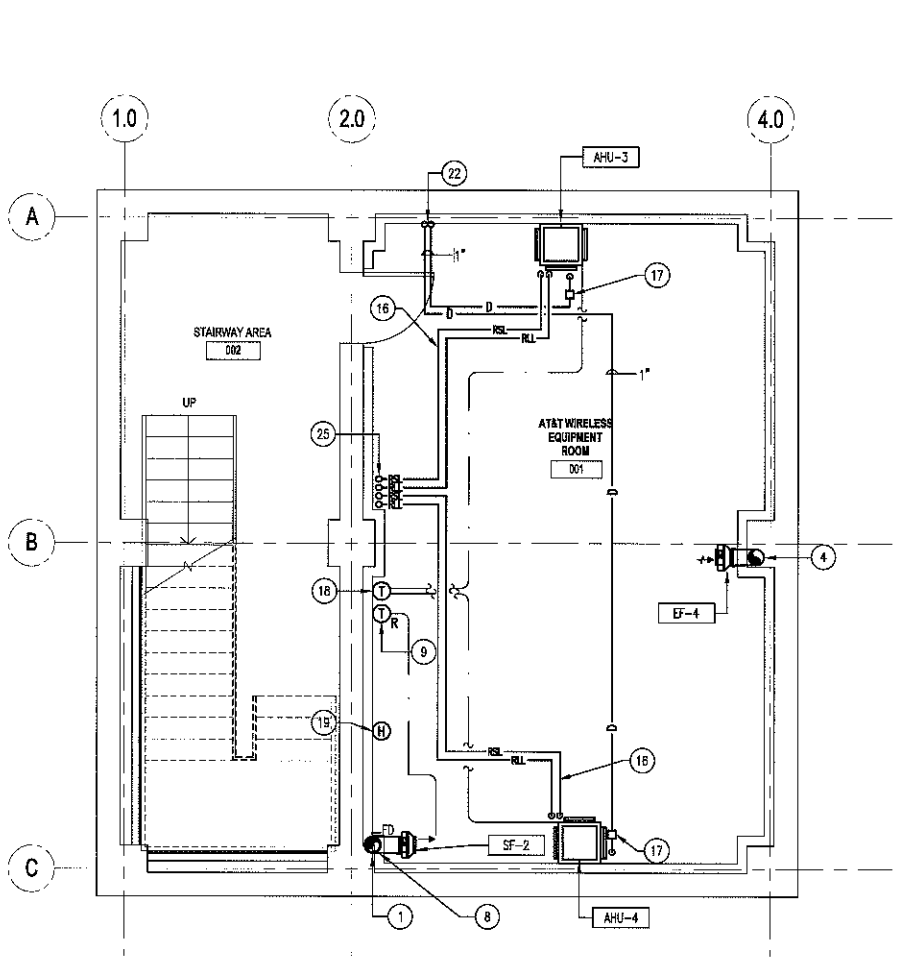
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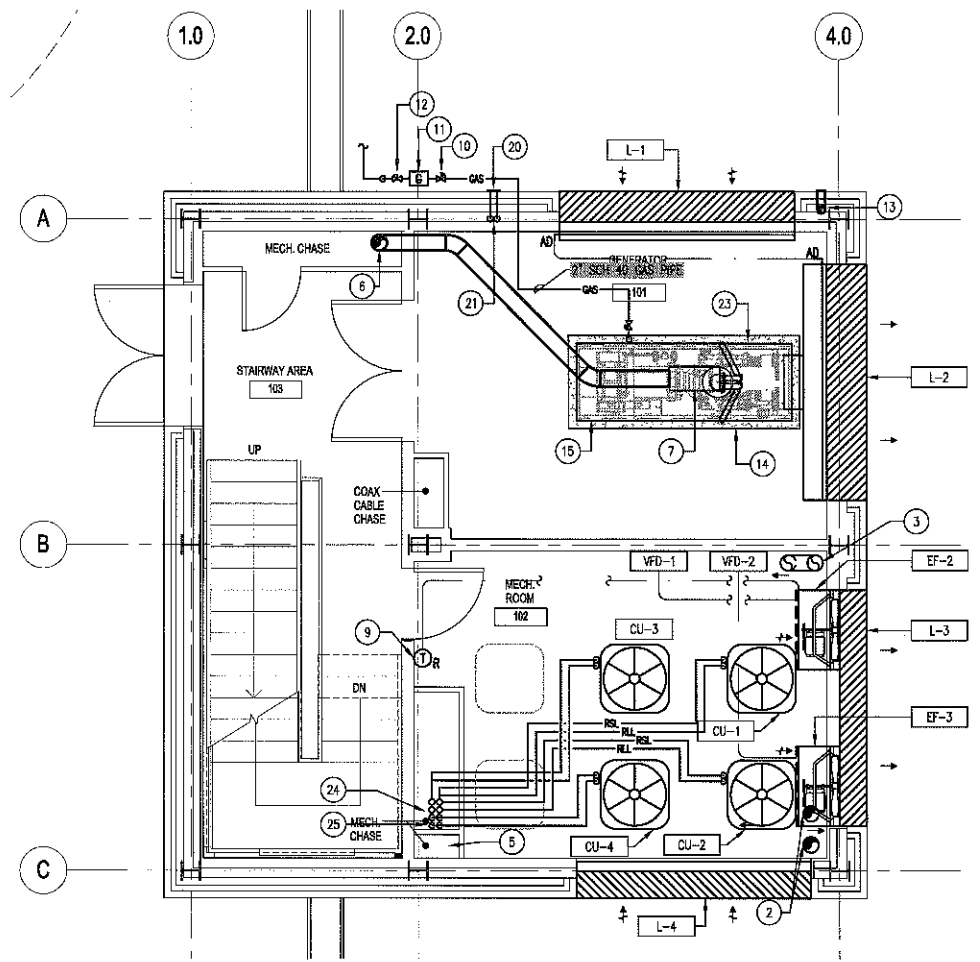
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- ### MECHANICAL NOTES
- ① 8"Ø INTAKE DUCT UP.
 - ② 8"Ø EXHAUST DUCT UP. PROVIDE WITH 1/4" WOVEN WIRE MESH SCREEN.
 - ③ 8"Ø OPEN ENDED EXHAUST DUCT WITH 1/4" WOVEN WIRE MESH SCREEN, GOOSENECK AND 8"Ø EXHAUST DUCT DOWN.
 - ④ 8"Ø EXHAUST DUCT UP.
 - ⑤ 8"Ø INTAKE DUCT UP AND DOWN.
 - ⑥ 6" GENERATOR EXHAUST STACK.
 - ⑦ MUFFLER WITH COMPANION FLANGES BY GENERATOR MANUFACTURER, INSTALLED BY CONTRACTOR.
 - ⑧ PROVIDE RATED SHAFT ENCLOSURE FOR AIR INTAKE DUCT.
 - ⑨ REVERSE ACTING THERMOSTAT.
 - ⑩ PRESSURE REDUCING VALVE.
 - ⑪ NEW GAS METER (BY UTILITY).
 - ⑫ GAS SHUT OFF VALVE. LABEL "VERIZON GENERATOR SHUT-OFF".
 - ⑬ 4" COMMON CONDENSATE DRAIN UP.
 - ⑭ 8" CONCRETE HOUSEKEEPING PAD.
 - ⑮ PROVIDE VIBRATION ISOLATORS AT BASE OF GENERATOR SUPPORT RAIL.
 - ⑯ REFRIGERANT PIPING MOUNTED AT CEILING OF EQUIPMENT ROOM. REFER TO DETAIL 2/M-201.
 - ⑰ PROVIDE 1" CONDENSATE DRAIN PIPING FROM AIR HANDLING UNITS TO CONDENSATE PUMPS. EXTEND AND PITCH DRAIN PIPING FROM CONDENSATE PUMPS TO EXTERIOR OF BUILDING. PROVIDE TRAP AND VENT CONNECTION. (TYP. OF 2).
 - ⑱ PROVIDE LEAD/LAD CONTROLLER WITH INTEGRAL THERMOSTAT.
 - ⑲ PROVIDE HYDROGEN DETECTOR AND INTERLOCK WITH EF-4. INTERNAL RELAY SHALL ACTIVATE EXHAUST FAN WHEN HYDROGEN LEVEL IN SPACE REACHES 1% BY VOLUME.
 - ⑳ 1" OPEN ENDED CONDENSATE DRAINS AT EXTERIOR OF BUILDING.
 - ㉑ 1" CONDENSATE DRAINS DOWN.
 - ㉒ 1" CONDENSATE DRAINS UP.
 - ㉓ 130 KW HOUSE GENERATOR.
 - ㉔ REFRIGERANT SUCTION AND LIQUID LINES DOWN.
 - ㉕ REFRIGERANT SUCTION AND LIQUID LINES UP.

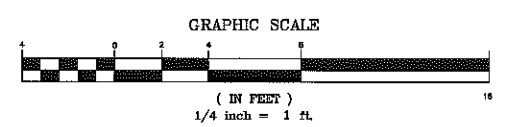


1 LOWER LEVEL - MECHANICAL
 M-101 SCALE: 1/4" = 1'- 0"



2 FIRST FLOOR - MECHANICAL
 M-101 SCALE: 1/4" = 1'- 0"

NOTE:
 VERIFY FINAL LAYOUT WITH OWNER'S
 CONSTRUCTION MANAGER PRIOR TO
 INSTALLATION.



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Sheet Title:
**LOWER LEVEL AND
 FIRST FLOOR PLANS -
 MECHANICAL**

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 Sheet Number: Revision:

M-101



Project
**CLOCK TOWER
 AMERICAN SCHOOL FOR
 THE DEAF**
 139 North Main Street
 West Hartford, Connecticut
 Prepared For
VERIZON WIRELESS

Project No: 2013.02

CEN TEK engineering
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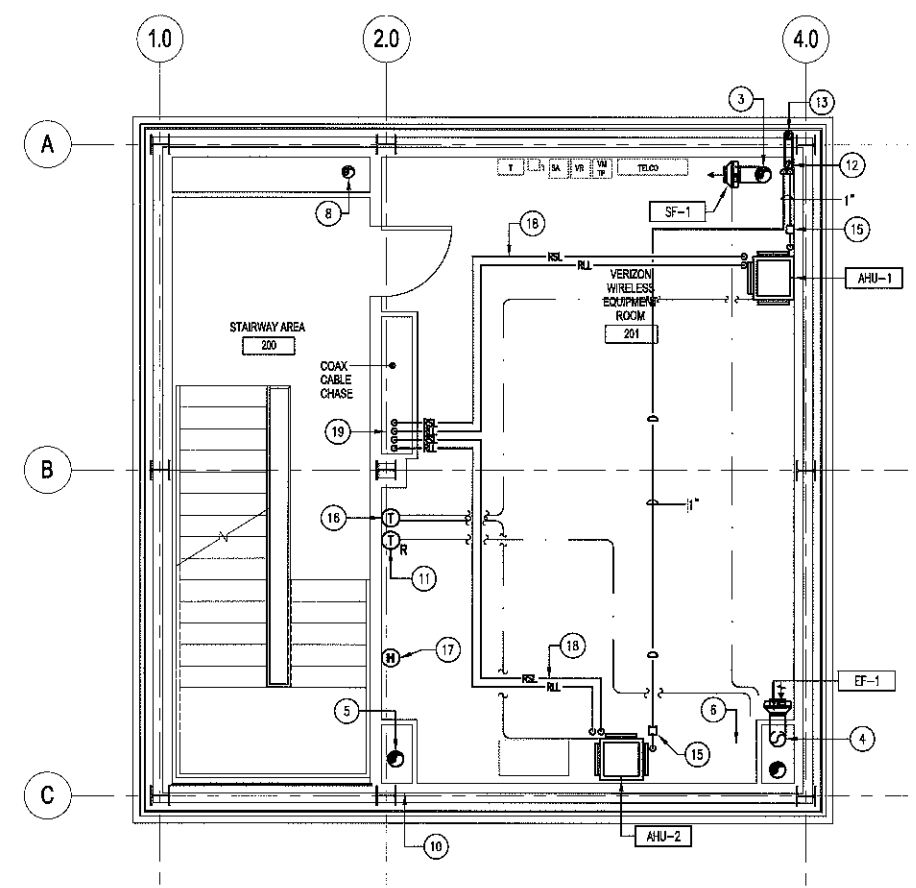
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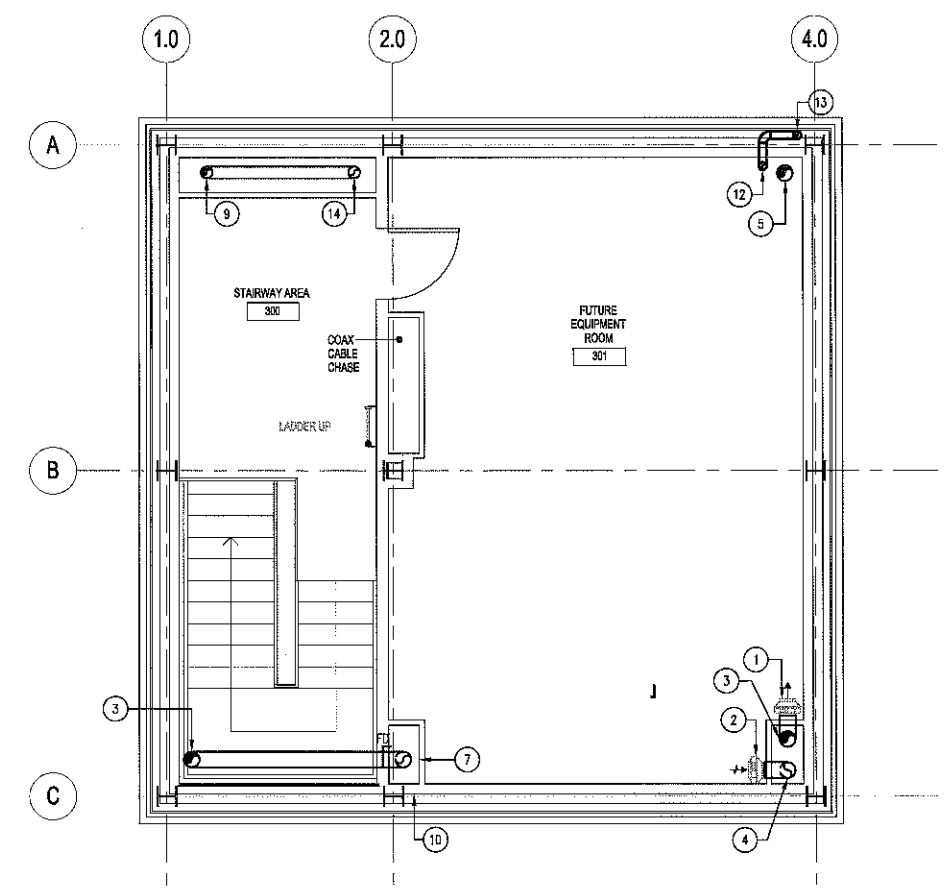
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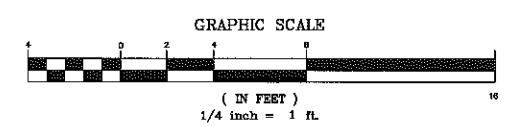
- MECHANICAL NOTES**
- ① FUTURE SUPPLY FAN
 - ② FUTURE EXHAUST FAN
 - ③ 8" INTAKE DUCT UP
 - ④ 8" EXHAUST DUCT DOWN
 - ⑤ 8" INTAKE DUCT UP AND DOWN.
 - ⑥ 8" EXHAUST DUCT UP AND DOWN.
 - ⑦ 8" INTAKE DUCT DOWN.
 - ⑧ 6" GENERATOR EXHAUST STACK.
 - ⑨ 6" INSULATED GENERATOR EXHAUST UP.
 - ⑩ PROVIDE RATED SHAFT ENCLOSURE FOR AIR INTAKE DUCT.
 - ⑪ REVERSE ACTING THERMOSTAT.
 - ⑫ 4" OPEN-ENDED CONDENSATE DRAIN.
 - ⑬ 4" COMMON CONDENSATE DRAIN RISER.
 - ⑭ 6" INSULATED GENERATOR EXHAUST DOWN.
 - ⑮ PROVIDE 1" CONDENSATE DRAIN PIPING FROM AIR HANDLING UNITS TO CONDENSATE PUMPS. EXTEND AND PITCH DRAIN PIPING FROM CONDENSATE PUMPS TO EXTERIOR OF BUILDING. PROVIDE TRAP AND VENT CONNECTION. (TYP. OF 2).
 - ⑯ PROVIDE LEAD/LAG CONTROLLER WITH INTEGRAL THERMOSTAT.
 - ⑰ PROVIDE HYDROGEN DETECTOR AND INTERLOCK W/EF-1. INTERNAL RELAY SHALL ACTIVATE EXHAUST FAN WHEN HYDROGEN LEVEL IN SPACE REACHES 1% BY VOLUME.
 - ⑱ REFRIGERANT PIPING MOUNTED AT CEILING OF EQUIPMENT ROOM. REFER TO DETAIL 2/M-201.



1 SECOND FLOOR PLAN - MECHANICAL
 M-102 SCALE: 1/4" = 1'-0"



2 THIRD FLOOR PLAN - MECHANICAL
 M-102 SCALE: 1/4" = 1'-0"



Do not scale dimensions from drawings
 Site verify all dimensions prior to construction
 Report all discrepancies to Architect immediately
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| Rev. | Description | Date |
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| 0 | D&M Submission (Not for Construction) | 07.29.13 |
| 1 | D&M Submission (Not for Construction) | 09.09.13 |
| 2 | D&M Submission (Client Review) | 10.08.13 |
| 3 | D&M Submission (Final-Not for Construction) | 10.21.13 |

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 Drawn Date: 07.29.13
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Sheet Title:
**SECOND FLOOR AND
 THIRD FLOOR PLANS -
 MECHANICAL**

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M-102



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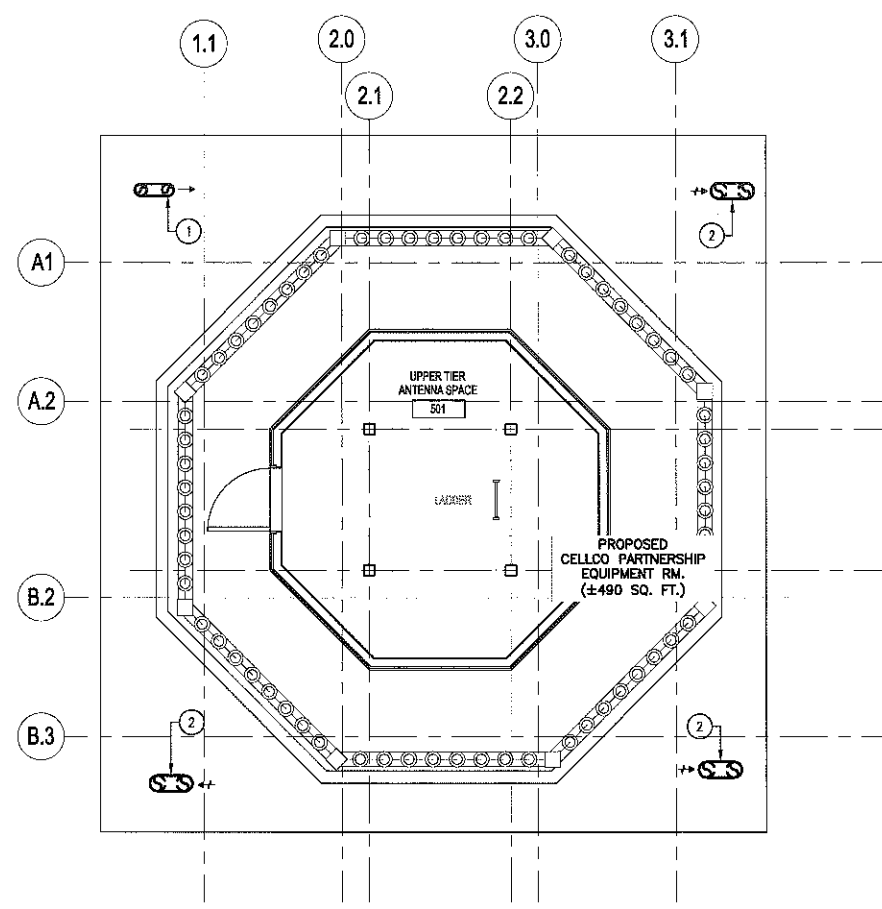
Sheet Title:
**ROOF PLAN -
 MECHANICAL**

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 Sheet Number: Revision:

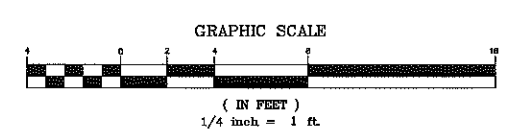
M-103

MECHANICAL NOTES

- ① 6" GENERATOR EXHAUST STACK. REFER TO DETAIL 3/MSU-101.
- ② 8" Ø OPEN ENDED INTAKE DUCT WITH 1/4" WOVEN WIRE MESH SCREEN, GOOSENECK AND 8" Ø INTAKE DUCT DOWN.



1 LOW ROOF PLAN - MECHANICAL
 M-103 SCALE: 1/4" = 1'-0"



| FLOOR OR WALL | MIN. THICK. | MAX. PIPE DIA. | MIN. ANNULAR SPACE | MAX. ANNULAR SPACE | MIN. FILL MAT. THICK. | MIN. FORM. MAT. THICK. | F RATING |
|---------------|-------------|----------------|--------------------|--------------------|-----------------------|------------------------|----------|
| F | 3 3/4" | 1 1/2" | 3/8" | 2 1/8" | 1" | 2 3/4" | 2 |
| F | 3 3/4" | 6" | 3/8" | 3/4" | 1" | 2 3/4" | 2 |
| F | 3 3/4" | 6" | 3/8" | 1" | 2" | 1 3/4" | 2 |
| F | 4 1/2" | 1 1/2" | 3/8" | 2 1/8" | 1" | 3 1/2" | 3 |
| F | 4 1/2" | 6" | 3/8" | 3/4" | 1" | 3 1/2" | 3 |
| F | 4 1/2" | 6" | 3/8" | 1" | 2" | 2 1/2" | 3 |
| W | 5 1/2" | 1 1/2" | 3/8" | 2 1/8" | 1" | 3 1/2" | 3 |
| W | 5 1/2" | 6" | 3/8" | 3/4" | 1" | 3 1/2" | 3 |
| W | 6 1/2" | 1 1/2" | 3/8" | 2 1/8" | 2" | 2 1/2" | 3 |
| W | 6 1/2" | 6" | 3/8" | 1" | 2" | 2 1/2" | 3 |

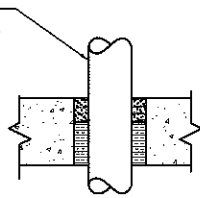
THROUGH PENETRANTS

ONE METALLIC PIPE OR TUBING TO BE INSTALLED EITHER CONCENTRICALLY OR ECCENTRICALLY WITHIN THE FIRESTOP SYSTEM. PIPE, CONDUIT OR TUBING TO BE RIGIDLY SUPPORTED ON BOTH SIDES OF FLOOR OR WALL.

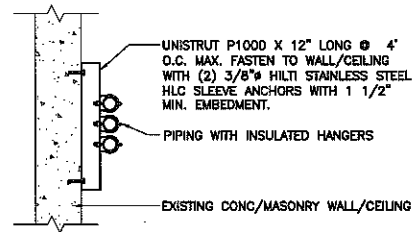
FORMING MATERIAL SHALL BE A MIN. OF 1 1/2" THICK OF MIN. 4.0 PCF MINERAL WOOL BATT INSULATION FIRMLY PACKED IN OPENING, USG INTERIORS-TYPE SAF

THICKNESS OF SEALANT APPLIED FLUSH W/THE TOP SURFACE OF BOTH SIDES OF FLOOR/WALL (SEE TABLE), USG INTERIORS-TYPE SS

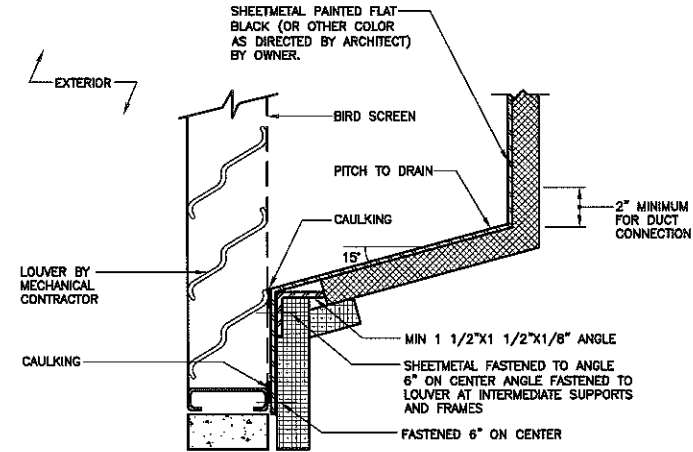
UL SYSTEM NUMBER:
CAJ1020 F RATING - 3 HR.



1 PIPE PENETRATION DETAIL IN CONCRETE OR MASONRY
M-201 SCALE: N.T.S.

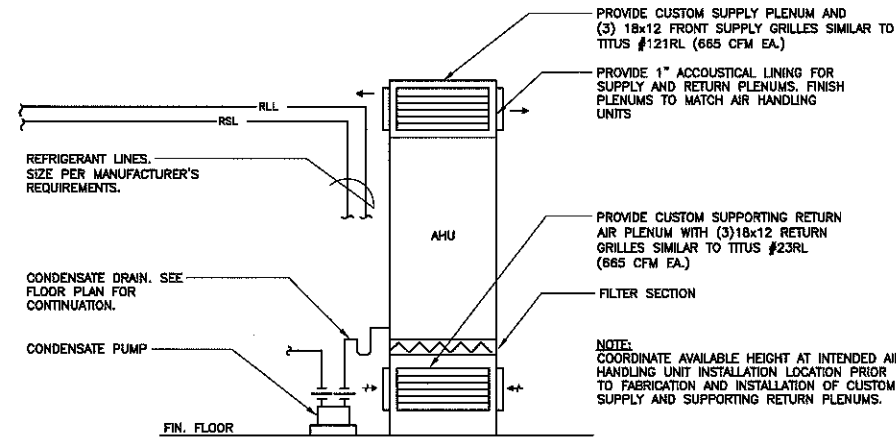


2 INTERIOR/EXTERIOR WALL/CEILING MOUNTED PIPE SUPPORT
M-201 N.T.S.

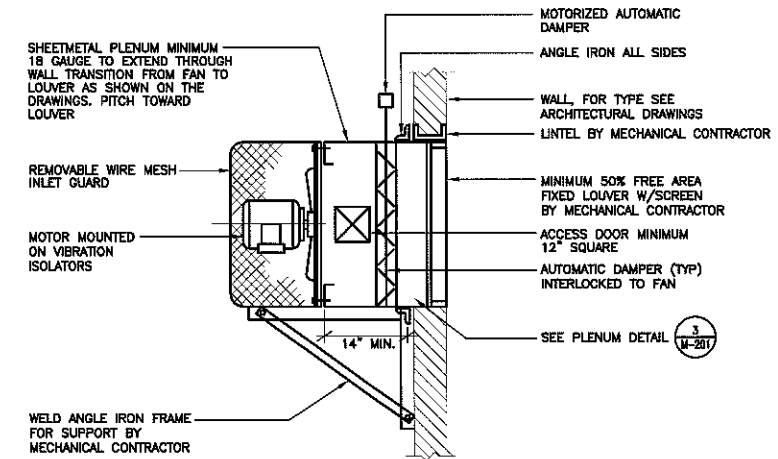


NOTES:
SUPPORT PLENUM FROM FLOOR OR STRUCTURE ABOVE W/GALVANIZED STEEL ANGLES AND CHANNELS.

3 PLENUM LOUVER CONNECTION
M-201 N.T.S.



4 VERTICAL AIR HANDLING UNIT DETAIL
M-201 N.T.S.



5 PROPELLER FAN (EXHAUST)
M-201 N.T.S.



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Sheet Title:
MECHANICAL DETAILS

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Drawn by: TJB
Drawn Date: 07.29.13
Reviewed by: CKD
Project No: 2013.02 (CENTEK Proj No. 12027.00)
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Sheet Title:
**ELECTRICAL GENERAL
NOTES AND
ABBREVIATIONS**

Original drawing is D. Do not scale contents of this drawing.
Sheet Number: Revlon:

E-001

ABBREVIATIONS

| | |
|-----------|---|
| A | AMPERES |
| AF | AMPERE FRAME (CIRCUIT BREAKER RATING) |
| AFF | ABOVE FINISHED FLOOR |
| AFG | ABOVE FINISHED GRADE |
| AHU | AIR HANDLING UNIT |
| AIC | AMPERE INTERRUPTING CAPACITY |
| AL | ALUMINUM |
| ARCH | ARCHITECT |
| AT | AMPERE TRIP (CIRCUIT BREAKER RATING) |
| ATC | AUTOMATIC TEMPERATURE CONTROL |
| ATS | AUTOMATIC TRANSFER SWITCH |
| AWG | AMERICAN WIRE GAUGE |
| BFC | BELOW FINISHED CEILING |
| BLDG | BUILDING |
| C | CONDUIT |
| C/B | CIRCUIT BREAKER |
| CAT | CATALOG |
| CIR | CIRCUIT |
| COL | COLUMN |
| CU | COPPER |
| DWG | DRAWING |
| EC | EMPTY CONDUIT |
| EGR | EXTERIOR GROUND RING |
| ELEC | ELECTRICAL |
| EMDP | EMERGENCY MAIN DISTRIBUTION PANEL |
| ETR | EXISTING TO REMAIN |
| F | FLUSH |
| FT | FEET |
| G | GROUND |
| GFCI | GROUND FAULT CIRCUIT INTERRUPTER |
| HPF | HIGH POWER FACTOR |
| IGR | INTERIOR GROUND RING MOUNTED 9'-0" ABOVE FINISHED FLOOR |
| JBOX/J.B. | JUNCTION BOX |
| KCMIL | ONE THOUSAND CIRCULAR MILS |
| KVA | KILOVOLT-AMPERES |
| KW | KILOWATTS |
| MCB | MAIN CIRCUIT BREAKER |
| MCCB | MOLDED CASE CIRCUIT BREAKER |
| MDP | MAIN DISTRIBUTION PANEL |
| MDP-A | MAIN DISTRIBUTION PANEL - AT&T |
| MDP-V | MAIN DISTRIBUTION PANEL - VERIZON |
| MECH | MECHANICAL |
| MISC | MISCELLANEOUS |
| MLO | MAIN LUGS ONLY |
| NC | NORMALLY CLOSED |
| NEC | NATIONAL ELECTRICAL CODE |
| NTS | NOT TO SCALE |
| OC | ON CENTER |
| P | POLE |
| PP-ASD | POWER PANEL AMERICAN SCHOOL OF THE DEAF |
| PVC | POLYVINYL CHLORIDE |
| R | RECESSED |
| S | SURFACE |
| SA | SURGE ARRESTOR |
| SP | SPARE |
| SW | SWITCH |
| TEL | TELEPHONE |
| V | VOLT |
| VM | VOLTAGE MONITOR |
| Y | WYE |
| W | WATT |
| WP | WEATHERPROOF |
| XFMR | TRANSFORMER |

GENERAL NOTES

- THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL WORK REQUIRED FOR A COMPLETE, FULLY OPERABLE INSTALLATION. ALL WORK TO BE DONE IN ACCORDANCE WITH THE LATEST APPROVED ISSUE OF THE NEC AND APPLICABLE LOCAL CODES.
- THE DRAWINGS SHOW THE GENERAL LAYOUT AND SOME OF THE DETAIL, BUT THEY DO NOT SHOW EVERY FITTING, BEND, ... ETC. ELECTRICAL CONTRACTOR SHALL PROVIDE ALL SUCH MATERIALS TO MAKE A COMPLETE INSTALLATION.
- DO NOT SCALE DRAWINGS; ACTUAL FIELD MEASUREMENTS AND DIMENSIONS TAKE PRECEDENCE IN ALL CASES.
- ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT, AIA DOCUMENT 201, LATEST EDITION.
- ELECTRICAL CONTRACTOR SHALL INSTALL ALL EQUIPMENT IN ACCORDANCE WITH MANUFACTURERS INSTRUCTIONS AND OR REQUIREMENTS FOR PROPER OPERATION AND MAINTENANCE.
- ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR TESTING OF ALL PHASES OF THE WORK AND TO DEMONSTRATE TO OWNER THAT THE EQUIPMENT IS IN FULL OPERATING ORDER.
- ELECTRICAL CONTRACTOR SHALL RESTORE ALL AREAS DISTURBED TO THEIR ORIGINAL CONDITION. ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR ALL CUTTING, PATCHING, PAINTING, CLEAN-UP, ELECTRICAL DEBRIS REMOVAL AND GENERAL COORDINATION OF THE WORK EFFORT AS REQUIRED FOR THE INSTALLATION OF THE ELECTRICAL ITEMS OF WORK.
- THE SCOPE OF WORK IS AS SHOWN ON THE PLANS AND DETAILED IN THE SPECIFICATIONS. ANY DEVIATIONS OR EXCLUSIONS FROM THIS MUST BE SUBMITTED TO ENGINEER FOR APPROVAL PRIOR TO BEING IMPLEMENTED.
- ALL THE WIRE SIZES AND ARE BASED ON COPPER, ALUMINUM IS NOT TO BE USED.
- ALL WIRING METHODS ARE TO BE IN ACCORDANCE WITH THE CURRENT ISSUE OF THE NATIONAL ELECTRICAL CODE, AND APPLICABLE LOCAL CODES. ADDITIONALLY, ALL WORK ON OR NEAR ENERGIZED CONDUCTORS OR EQUIPMENT SHALL BE IN ACCORDANCE WITH NFPA 70E, CHAPTER 1: SAFETY-RELATED WORK PRACTICES.
- ALL WIRING IS TO BE IN CONDUIT, UNLESS SPECIFICALLY NOTED OTHERWISE. ALL WIRING IS TO BE CONCEALED.
- PROVIDE INDEPENDENT SEISMIC SUPPORT OF ALL ELECTRICAL EQUIPMENT PER THE CURRENT ISSUE OF CT BUILDING CODE.
- ELECTRICAL CONTRACTOR SHALL SECURE ALL PERMITS AND PAY FOR ALL REQUIRED FEES, INCLUDING ALL UTILITY FEES.
- ELECTRICAL CONTRACTOR SHALL WARRANT AND GUARANTEE ALL MATERIALS AND WORKMANSHIP FOR A PERIOD OF ONE YEAR FROM THE DATE OF FINAL ACCEPTANCE BY THE OWNER.
- ELECTRICAL CONTRACTOR SHALL PROVIDE PROOF OF LIABILITY AND PROPERTY INSURANCE TO THE OWNER, ALL DEDUCTIBLES SHALL BE PAID FOR BY THE ELECTRICAL CONTRACTOR IN THE EVENT OF A CLAIM.
- PERSONNEL SAFETY IS OF PRIME IMPORTANCE. NO HAZARDOUS CONDITION MUST BE ALLOWED. EVERY CARE MUST BE TAKEN TO PROTECT CONSTRUCTION AND OTHER PERSONNEL. CLEANUP IS TO BE DONE ON A DAILY BASIS. ELECTRICAL CONTRACTOR TO REMOVE AND DISPOSE OF REFUSE FROM SITE.
- ELECTRICAL CONTRACTOR SHALL PROVIDE SHOP DRAWINGS FOR APPROVAL FOR ALL LIGHTING FIXTURES, PANELS, SWITCHES, RECEPTACLES, ... ETC.
- ELECTRICAL CONTRACTOR TO VERIFY LIGHTING FIXTURE MOUNTING REQUIREMENTS FOR VARIOUS CEILING TYPES AND ORDER APPROPRIATE HARDWARE.
- COORDINATE EXACT PLACEMENT OF EQUIPMENT WITH ARCHITECTURAL AND MECHANICAL PLANS, MAKE FIELD ADJUSTMENTS AS REQUIRED TO AVOID CONFLICTS, VERIFY WITH OWNER.
- ELECTRICAL CONTRACTOR TO COORDINATE WITH ARCHITECTURAL AND MECHANICAL CONTRACTOR FOR ITEMS SUPPLIED BY THE MECHANICAL/OTHER DIVISIONS BUT INSTALLED BY THE ELECTRICAL CONTRACTOR. ELECTRICAL CONTRACTOR TO REVIEW ALL THE PLANS FOR THE PROJECT FOR ELECTRICAL WORK.
- ELECTRICAL CONTRACTOR TO VERIFY LOADS, SETTINGS, OVERCURRENT PROTECTION... ETC TO INSURE COMPATIBILITY OF EQUIPMENT.
- ELECTRICAL CONTRACTOR TO VERIFY ALL EQUIPMENT POWER NEEDS WITH THE ACTUAL SHOP DRAWINGS FOR THE EQUIPMENT TO BE USED, PRIOR TO STARTING ANY ELECTRICAL WORK.
- ALL BALLASTS TO BE HPF AND HAVE THE LOWEST POSSIBLE ENERGY CONSUMPTION FOR THE GIVEN LAMP.
- ALL ELECTRICAL PENETRATIONS TO BE FIREPROOFED TO MAINTAIN INTEGRITY OF FIRE WALLS/FLOORS/CEILINGS.
- PROVIDE LAMICOID NAMEPLATES FOR ALL ELECTRICAL DISTRIBUTION AND DISCONNECT EQUIPMENT. ALTERNATE METHODS SHALL NOT BE ALLOWED. NAMEPLATES SHALL BE FASTENED TO PANEL WITH SCREWS.
- THE DISPOSAL OF ALL UNUSED EXISTING ELECTRICAL EQUIPMENT REMOVED IS A PART OF THE SCOPE OF WORK. THE ELECTRICAL CONTRACTOR SHALL DISPOSE OF ALL SUCH EQUIPMENT, INCLUDING HAZARDOUS PCB CONTAINING BALLASTS, IN A MANNER CONSISTENT WITH STATE OF CT. DEPARTMENT OF ENVIRONMENTAL PROTECTION REGULATIONS, CURRENT ISSUE.
- SHARED NEUTRALS ARE NOT TO BE USED. PROVIDE SEPARATE NEUTRALS FOR ALL CIRCUITS.
- PRIOR TO ACQUISITION OR INSTALLATION GIVE WRITTEN NOTICE TO ARCHITECT AND ENGINEER OF ANY MATERIAL OR APPARATUS THAT IS INADEQUATE, UNSUITABLE FOR THE USE, IN VIOLATION OF LAWS, ORDINANCES, RULES, CODES OR ANY REGULATIONS OF AUTHORITIES HAVING JURISDICTION OR ANY NECESSARY ITEMS OF WORK THAT HAS BEEN OMITTED. CONTRACTOR AFFIRMS THAT ABSENT SUCH NOTICE, ALL SYSTEMS WILL FUNCTION SATISFACTORILY WITHOUT ADDITIONAL EXTRA COMPENSATION.
- ALL PART NUMBERS ARE PROVIDED FOR THE CONVENIENCE OF THE CONTRACTOR. THEY ARE NOT TO BE CONSIDERED THE COMPLETE SPECIFICATION OF THE PRODUCT. THE PART NUMBER AND DESCRIPTION WILL BE THE COMPLETE SPECIFICATION. IN THE EVENT OF A DISCREPANCY BETWEEN THE TWO, THE MORE STRINGENT, MORE COSTLY FEATURE/PERFORMANCE WILL BE REQUIRED.
- AT THE CONCLUSION OF THE PROJECT WHILE THE PROJECT IS OCCUPIED AND OPERATING NORMALLY, THE CONTRACTOR IS TO TAKE AND RECORD OPERATING CURRENTS IN THE DISTRIBUTION SYSTEM AND REPORT THESE READINGS TO THE ENGINEER FOR EVALUATION. ENGINEER SHOULD BE ADVISED WHEN THE READINGS ARE TO BE MADE SO THAT HE MAY ATTEND AND WITNESS SAME.
- RISER DIAGRAMS ARE PROVIDED TO SHOW DIAGRAMMATIC GENERAL WIRING REQUIREMENTS. WIRING IS TO BE PROVIDED FOR THE PARTICULAR VENDOR/SYSTEM APPROVED FOR THE PROJECT. ALL WIRING IS TO BE CONCEALED.
- ALL WIRING IN AIR PLENUM CEILINGS SHALL BE TEFLON COATED AND RATED FOR USE WITHIN THE PLENUM.
- NO LOW VOLTAGE WIRING SHALL BE PERMITTED IN THE SAME RACEWAY AS POWER WIRING.
- PROVIDE DRAG LINES IN ALL EMPTY RACEWAYS.
- CIRCUIT NUMBERS ARE INDICATED FOR INTENT ONLY. THE ELECTRICAL CONTRACTOR SHALL ADJUST ACCORDINGLY IN THE FIELD, TO BALANCE CIRCUITS EVENLY ON ALL PHASES.
- REFER TO ARCHITECTURAL DRAWINGS FOR THE EXACT LOCATION AND MOUNTING HEIGHTS OF ALL DEVICES AND OUTLETS.
- DEBRIS REMOVAL FROM THE CONSTRUCTION SITE WILL BE COMPLETED BY A PREDETERMINED ROUTE AT TIMES COORDINATED WITH OWNER.
- ELECTRICAL CONTRACTOR SHALL CREATE A NEW CIRCUIT DIRECTORY TO BE PLACED IN EACH PANEL ASSOCIATED WITH THIS PROJECT WHICH SHALL INCLUDE PANEL NUMBER AND DATE. TWO COPIES OF THIS DIRECTORY SHALL BE SUBMITTED TO THE OWNER, AND ONE COPY SHALL BE SUBMITTED TO THE ELECTRICAL ENGINEER.
- THE ELECTRICAL CONTRACTOR SHALL PROVIDE INTERIM HEAT DETECTOR COVERAGE IN ALL AREAS UNDER CONSTRUCTION. FIRE ALARM CONTROL PANEL, HEAT DETECTORS, WIRING AND POINTS OF CONNECTION TO THE EXISTING FIRE ALARM SYSTEM SHALL BE PROVIDED BY THE ELECTRICAL CONTRACTOR AND BE COMPATIBLE WITH THE FIRE ALARM SYSTEM PRESENTLY SERVING THE AREA. THE HEAT DETECTORS SHALL BE LOCATED ON A DRAWING AND BE WIRED TO THE FACP (EXISTING FIRE ALARM ZONE). THIS DRAWING SHALL BE SUBMITTED TO THE OWNER AND FIRE MARSHAL FOR APPROVAL. THE CONTRACTOR SHALL SUBMIT IN WRITING TO OWNER THAT THE INTERIM HEAT DETECTORS HAVE BEEN SYSTEM TESTED AND ARE CERTIFIED OPERATIONAL BY THE FIRE ALARM VENDOR. THE DETECTORS SHALL BE REMOVED AND TURNED OVER TO THE OWNER WHEN THE PERMANENT SYSTEM IS IN PLACE AND CERTIFIED OPERATIONAL BY THE FIRE ALARM VENDOR. THE ELECTRICAL CONTRACTOR SHALL CARRY THE COST FOR INTERIM HEAT DETECTOR COVERAGE AND ASSOCIATED EQUIPMENT IN THE BASE BID.
- ELECTRICAL CONTRACTOR SHALL COORDINATE WITH LATEST VERSION OF ALL EQUIPMENT VENDOR DRAWINGS AND PROVIDE ALL ITEMS LISTED AS PROVIDED AND/OR INSTALLED BY OWNER, CONTRACTOR, OR BY ANYONE OTHER THAN EQUIPMENT VENDOR.
- ALL WORK SHALL BE COORDINATED WITH OWNER FOR SCHEDULING AND ANY SPECIAL REQUIREMENTS.
- PRIOR TO MAKING ANY FLOOR PENETRATIONS, ALL CONFLICTS AND OBSTRUCTIONS SHALL BE LOCATED. ALL CONCRETE REINFORCING SHALL BE LOCATED USING AN X-RAY OR OTHER STRUCTURAL ENGINEER APPROVED METHODS. COORDINATE WITH BUILDING OWNER AND STRUCTURAL ENGINEER TO RESOLVE ALL CONFLICTS. REINFORCING SHALL NOT BE CUT OR DRILLED WITHOUT STRUCTURAL ENGINEER'S APPROVAL.
- ELECTRICAL CONTRACTOR SHALL PROVIDE CONTROLS FOR ALL LIGHT FIXTURES. EACH LIGHTED SPACE SHALL HAVE SWITCHES INSTALLED AT EACH ENTRANCE TO THE SPACE, INCLUDING ANY NECESSARY COMBINATION OF 3-WAY AND 4-WAY SWITCHES.
- ELECTRICAL DEVICES SHALL BE ARRANGED PER ARCHITECTURAL DRAWINGS AND SPACED PER NEC MINIMUM REQUIREMENTS.
- 120V, 20A, 1P CIRCUIT CONDUCTORS SHALL BE SIZED AS FOLLOWS:
0 - 50': #12 AWG, #12 AWG GND.
50'-100': #10 AWG, #10 AWG GND.
100'-180': #8 AWG, #8 AWG GND.
- COORDINATE WITH MECHANICAL CONTRACTOR FOR REQUIREMENTS OF ATC CIRCUITS AND OVERCURRENT PROTECTION DEVICES AND PROVIDE HACR CIRCUIT BREAKERS AND/OR FUSES WITH SPECIFIED TIME DELAY AS REQUIRED.
- HALF SHADED LIGHT FIXTURES SHALL BE EQUIPPED WITH AN INTEGRAL BATTERY BACKUP BALLAST. REFER TO LIGHT FIXTURE SCHEDULE FOR ADDITIONAL INFORMATION.
- EXIT SIGNS SHALL BE WIRED FOR CONSTANT ILLUMINATION AND CONNECTED TO LINE SIDE OF NEARBY LIGHTING CIRCUIT.
- ALL OUTLETS IN ALL LOCATIONS (INCLUDING ETR, AND WITHIN OWNER FURNISHED EQUIPMENT AND SYSTEMS) REQUIRE NEW DEVICES AND NEW COVERPLATES. DEVICES AND COVERPLATES SHALL BE LABELED AND COLORED AS SPECIFIED IN THE DETAILS.
- NEW FIRE ALARM WIRE SHALL BE CLASS A, MINIMUM 16 AWG. AUDIO CABLES SHALL BE SHIELDED TYPE. PROVIDE CERTIFICATION TESTING OF ALL WIRES AND PROVIDE VERIFICATION OF TEST RESULTS TO OWNER.
- FIRE ALARM WIRING SHALL BE INSTALLED PER AHJ REQUIREMENTS AND ALL APPLICABLE STATE AND LOCAL CODES INCLUDING, BUT NOT LIMITED TO, NFPA CODES: 70, 70E, 72, AND 101.
- ALL SMOKE/HEAT DETECTORS SHALL BE TESTED AND LABELED. PROVIDE VERIFICATION OF TEST RESULTS TO OWNER.
- PROVIDE FIRE ALARM AS-BUILT DRAWING SHOWING ALL DEVICE LOCATIONS, ADDRESSES, NODES, LOOPS, AND PIPING OR PATHWAYS.
- ALL CIRCUIT BREAKERS SHALL HAVE AIC RATING EQUAL TO, OR GREATER THAN, THE AIC RATING OF THE PANEL IN WHICH THEY ARE INSTALLED.
- ALL NEW ELECTRICAL RECEPTACLES SHALL BE TESTED WITH AN ELECTRICAL RECEPTACLE ANALYZER PROVIDED BY THE OWNER WITH INSTRUCTIONS FOR USE AND CARE. A REPORT OF THE TEST RESULTS SHALL BE PROVIDED TO THE OWNER AND SHALL INDICATE ROOM NUMBER, RECEPTACLE ID, LINE VOLTAGE, CORRECT POLARITY, NEUTRAL TO GROUND VOLTS, GROUND TO GROUND VOLTS AND OHMS, TENSION, AND RECEPTACLE STATUS. CONTRACTOR WILL BE RESPONSIBLE FOR ANY DAMAGE TO ANALYZER.
- REFER TO CIVIL DRAWINGS FOR ACTUAL LOCATIONS OF STRUCTURES ON SITE.
- COORDINATION, LAYOUT AND FURNISHING OF CONDUIT, CABLE AND ALL APPURTENANCES REQUIRED FOR PROPER INSTALLATION OF ELECTRICAL/TELECOMMUNICATIONS SERVICES SHALL BE THE SOLE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR.
- ALL UTILITY WORK SHALL BE IN ACCORDANCE WITH LOCAL UTILITY COMPANY REQUIREMENTS AND SPECIFICATIONS.
- PROVIDE CADWELD CONNECTION STYLES: THROUGH (CABLE TO CABLE) TYPE "TA" (CABLE TO SURFACE) TYPE "LA" OR "VS" (PIPE) (CABLE TO ROD) TYPE "GT" OR "NC" (CABLE TO CABLE) TYPE "SS"
- SEE CIVIL SHEETS FOR DETAILS OF FLOOR AND WALL PENETRATIONS.
- ALL CONDUITS SHALL BE PROPERLY ANCHORED ALONG ENTIRE ROUTE.

| LIGHT FIXTURE SCHEDULE | | | | | |
|------------------------|--------------------------------|---|--------------------------------------|-----------------|-------|
| TYPE | MANUFACTURER CATALOG/MODEL No. | DESCRIPTION | LAMP | MOUNTING | NOTES |
| A | DAY-BRITE #HWN-332-120 | 9" WIDE, SURFACE MOUNTED LIGHT FIXTURE WITH ACRYLIC PRISMATIC LENS, T-8 LAMPS AND ELECTRONIC BALLAST | (3)-32W | CEILING | 1 |
| B | HUBBELL #QSP | QUARTER SPHERE ARCHITECTURAL WALL PACK WITH 47.5W LED, WIDE THROW, BRONZE FINISH, INTEGRAL 120V PHOTOCELL | (1) 47.5W LED | WALL | 1,2 |
| E | SURE-LITES #CC3-NC-WH-SD | EMERGENCY LIGHT UNIT WITH 90 MINUTE NICKEL CADMIUM BATTERY & SELF-DIAGNOSTIC TESTING FEATURE | (2) 5.4W PAR36 | WALL | 1 |
| E1 | SURE-LITES #CC5-NC-WHSD/6T6WHH | EMERGENCY LIGHT UNIT WITH REMOTE WEATHERPROOF HEADS AND 90 MINUTE NICKEL CADMIUM BATTERY & SELF-DIAGNOSTIC TESTING FEATURE | (2) 5.4W PAR36 (2) 6 WATT HALOGEN | WALL | 1 |
| F | DUAL-LITE PGN-7 | DARK BRONZE LED EMERGENCY SCONCE, PROVIDE WITH INVERTER LOCATED IN ADJACENT CORRIDOR CLOSET. PROVIDE EMERGENCY SUPERVISORY RELAY TO ILLUMINATE FIXTURE ONLY UPON LOSS OF POWER TO EXTERIOR LIGHTING CIRCUIT IN SAME LOCATION. | LED 17W | WALL | 1 |
| G | DAYBRITE VFN | COMPACT FLOURESCENT VAPOLET WITH 42W CFL LAMP, PRISMATIC GLASS GLOBE WITH GUARD, CEILING MOUNT, UNIVERSAL VOLTAGE, INSTALL MOUNTED TO WALL WITH LAMP ORIENTED HORIZONTALLY TO PROVIDE UP AND DOWN LIGHTING. | 42W CFL | SEE DESCRIPTION | 1 |

NOTES:
1. PROVIDE ALL THE NECESSARY ACCESSORIES AS REQUIRED TO MOUNT LIGHTING FIXTURES TO CEILING STRUCTURE AS REQUIRED.
2. EXTERIOR LIGHT SHALL BE CONNECTED TO BUILDING OWNER APPROVED CONTROLS.

| ELECTRICAL LEGEND | |
|-------------------|---|
| SYMBOL | DESCRIPTION |
| | FLUORESCENT LIGHTING FIXTURE CEILING OR RECESSED MOUNTED. "F1" INDICATES FIXTURE TYPE, "2" INDICATES CIRCUIT NUMBER, "a" INDICATORS SWITCH CONTROL. |
| | EMERGENCY LIGHTING FIXTURE |
| | DISCONNECT SWITCH |
| | FUSED DISCONNECT SWITCH |
| | HOMERUN: PANELBOARD AND CIRCUIT # AS INDICATED |
| | BRANCH CIRCUIT CONDUIT AND CONDUCTORS |
| | SWITCHED BRANCH CIRCUIT CONDUIT AND CONDUCTORS |
| | ELECTRICAL CONDUIT AND CONDUCTORS |
| | TELECOMMUNICATIONS CONDUIT AND CABLES |
| | GROUND SYSTEM CONDUIT AND CONDUCTORS |
| | MAIN DISTRIBUTION PANEL |
| | ALARM JUNCTION BOX |
| | DUPLEX RECEPTACLE, "R21" INDICATES PANEL, "2" INDICATES CIRCUIT NUMBER, "E" INDICATES WIRED TO EMERGENCY PANEL |
| | QUADRUPLEX RECEPTACLE |
| | DUPLEX RECEPTACLE WITH GFCI AND WEATHER PROOF COVER LISTED 'WHILE-IN-USE' |
| | HIGH TEMPERATURE SENSOR |
| | LOW TEMPERATURE SENSOR |
| | THERMOSTAT (PROVIDED BY DIVISION 15, INSTALLED BY DIVISION 16) |
| | HIGH HUMIDISTAT (PROVIDED BY DIVISION 15, INSTALLED BY DIVISION 16) |
| | SMOKE DETECTOR WITH N.C. AUXILIARY CONTACTS FOR FACP INTERFACE |
| | DOOR ALARM CONTACT |
| | KWH SUBMETERING AS SPECIFIED |
| | TELEPHONE OUTLET, RJ-11/45 MODULAR JACK (MOUNTED 54" AFF) |
| | EXOTHERMIC WELD CONNECTION |
| | MECHANICAL CONNECTION USING COMPRESSION LUG CONNECTOR |
| | MECHANICAL CONNECTION USING EXOTHERMIC WELDED LUG CONNECTOR |
| | MECHANICAL CONNECTION USING (3) C-TAP COMPRESSION MAN - BRANCH |
| | 2" COPPER WIRE WITH COMPRESSION LUGS AT EACH END. CUT TO LENGTH IN FIELD. |
| | NON METALLIC 3" STANDOFF FASTENER |
| | EXOTHERMIC WELD 'T' OF THRU' CONDUCTOR AND TAP CONDUCTOR. 'CADWELD TYPE TA' |
| | EXOTHERMIC WELD TYPE 'TA' |

| ELECTRICAL LEGEND | |
|-------------------|---|
| SYMBOL | DESCRIPTION |
| | NEW EXTERIOR GROUND RING |
| | GROUND BAR AT WAVE PORT |
| | 5/8" DIAMETER x 10'-0" COPPER GROUND ROD |
| | 5/8" DIAMETER x 10'-0" COPPER GROUND ROD WITH ACCESS |
| | SINGLE POLE TOGGLE SWITCH. "a" INDICATES FIXTURE CONTROL |
| | 8 HOUR TIMER SWITCH. (MOUNTED 54" AFF) |
| | EXIT SIGN WITH DUALHEAD EMERGENCY LIGHT |
| | EMERGENCY LIGHT REMOTE HEAD |
| | MOTION SENSOR CONTROLLED LIGHT |
| | GROUND WELL |
| | HEAT DETECTOR WITH N.C. AUXILIARY CONTACTS FOR FACP INTERFACE |
| | HYDROGEN DETECTOR WITH N.C. AUXILIARY CONTACTS FOR FACP INTERFACE |
| | CEILING MOUNTED ILLUMINATED EXIT SIGN, ARROWS AS INDICATED ON DRAWINGS. |
| | GROUND BAR |
| | PANELBOARD, SURFACE MOUNTED |
| | PANELBOARD, FLUSH MOUNTED |
| | AUDIO/VISUAL FIRE ALARM, "WP" INDICATES WEATHERPROOF. |
| | FIRE ALARM CONTROL PANEL |
| | TIME CLOCK FOR EXTERIOR LIGHTING CONTROL |
| | JUNCTION BOX, SIZED PER NEC AND EQUIPMENT VENDOR (REFER TO ARCHITECTURAL AND EQUIPMENT VENDORS' DRAWINGS FOR SIZE AND LOCATION) |
| | JUNCTION BOX SIZED PER NEC. "ATC" INDICATES CONNECTION FOR AUTOMATIC TEMPERATURE CONTROL |
| | TELEPHONE OUTLET MOUNTED 48" AFF |

| BRANCH CIRCUIT WIRING NOTES | |
|-----------------------------|---|
| 1. | WIRING IS SHOWN ON DRAWINGS ONLY FOR SPECIFIC ROUTES OR SPECIAL CONDITIONS. |
| 2. | WIRING AND CONDUIT SHALL BE REQUIRED BETWEEN ALL OUTLETS INDICATED WITH CIRCUIT NUMBERS AND PANEL DESIGNATIONS. |
| 3. | ALL SWITCH CONTROLS SHALL BE PROVIDED WITH WIRING AND CONDUIT AS REQUIRED. |
| 4. | ALTHOUGH ALL BRANCH CIRCUIT WIRING AND CONDUIT IS NOT SHOWN, IT IS THE INTENT OF THESE DOCUMENTS THAT A COMPLETE BRANCH CIRCUIT WIRING SYSTEM BE INSTALLED. |
| 5. | MINIMUM CONDUCTOR SIZE SHALL BE 12 AWG. COPPER. |
| 6. | ALL WIRING SHALL BE INSTALLED IN GALVANIZED RIGID METAL CONDUIT. |



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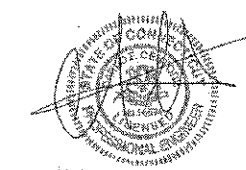
| Rev. | Description | Date |
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| 0 | D&M Submission (Not for Construction) | 07.29.13 |
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Drawn by: TJB
Drawn Date: 07.29.13
Reviewed by: CKD
Project No: 2013.02 (CENTEK Proj No. 12027.00)
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Sheet Title:
**ELECTRICAL
LEGEND, NOTES
AND SCHEDULES**

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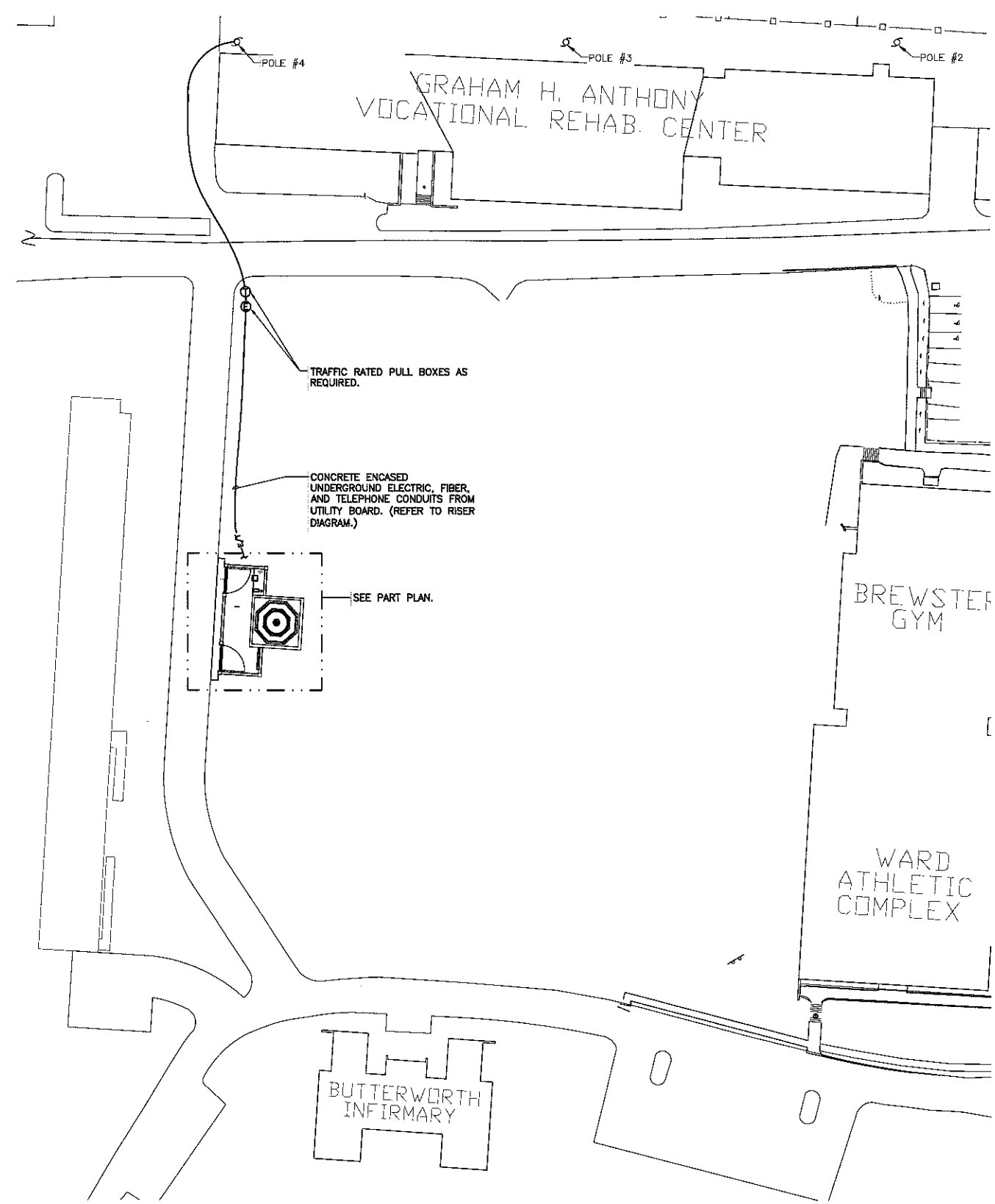
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 Reviewed by: OKD
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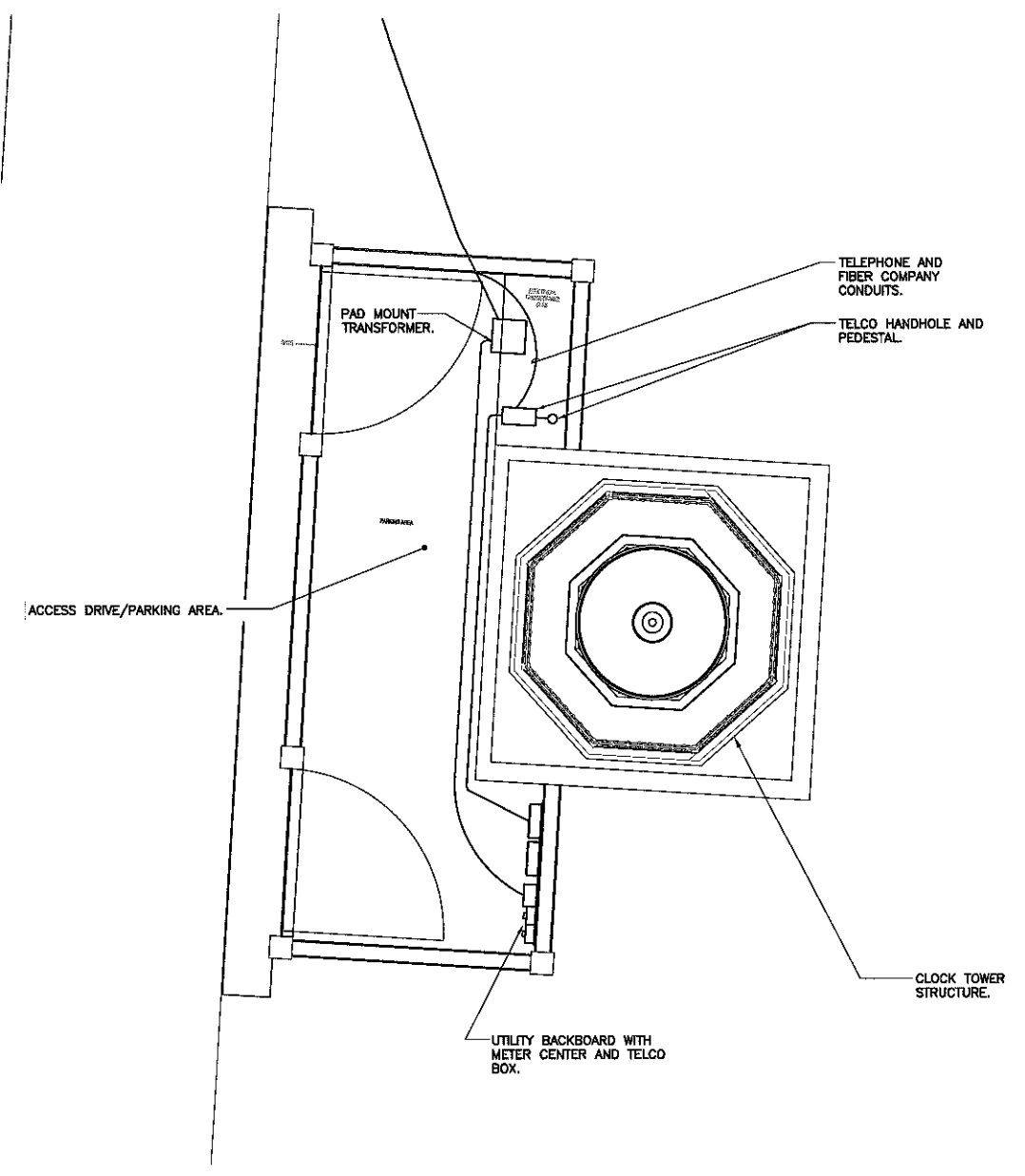
Sheet Title:
SITE UTILITY PLAN -
ELECTRICAL

Original drawing is D. Do not scale contents of this drawing.
 Sheet Number: Revision:

ESU-101

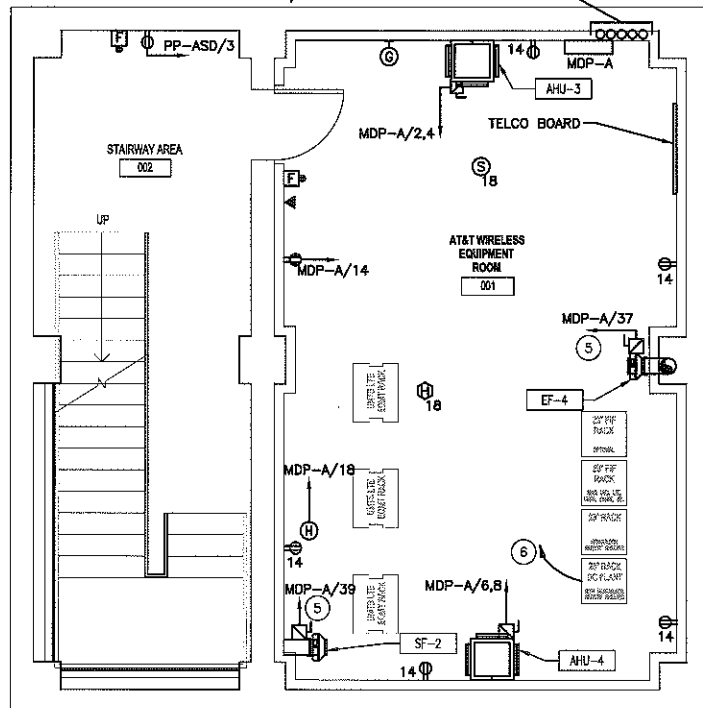


1 SITE UTILITY PLAN
 ESU-101 SCALE: 1" = 40'
 GRAPHIC SCALE
 (IN FEET)
 1 inch = 40 ft

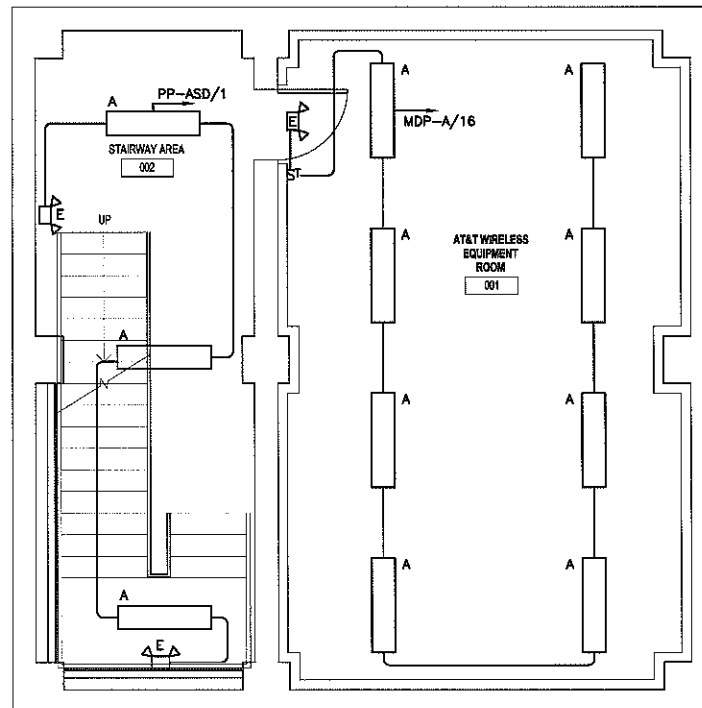


2 PARTIAL SITE PLAN
 ESU-101 SCALE: 1/8" = 1'- 0"
 GRAPHIC SCALE
 (IN FEET)
 1 inch = 8 ft

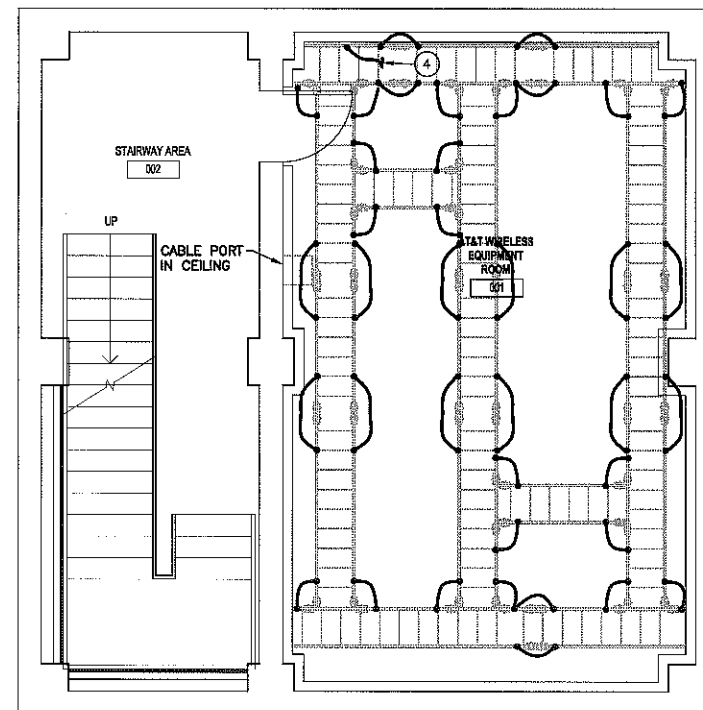
APPROXIMATE LOCATION OF CONDUITS FOR POWER, COMMUNICATIONS AND GROUNDING CONDUCTORS. (REFER TO RISER DIAGRAM AND GROUNDING SCHEMATIC).



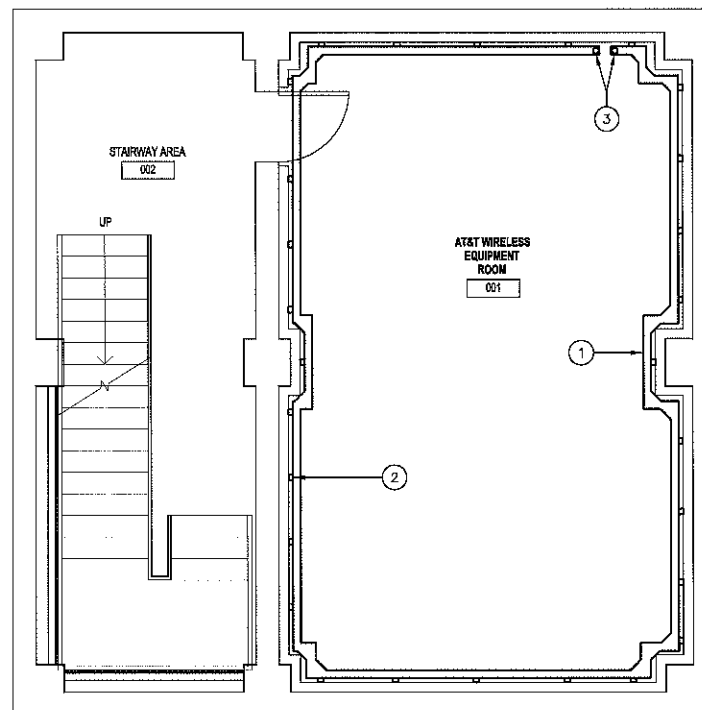
1 LOWER LEVEL ELECTRICAL POWER PLAN
E-101 SCALE: 1/4" = 1'-0" NOTE: VERIFY FINAL LAYOUT WITH OWNERS CONSTRUCTION MANAGER PRIOR TO INSTALLATION.



2 LOWER LEVEL ELECTRICAL LIGHTING PLAN
E-101 SCALE: 1/4" = 1'-0" NOTE: VERIFY FINAL LAYOUT WITH OWNERS CONSTRUCTION MANAGER PRIOR TO INSTALLATION.



3 LOWER LEVEL CABLE TRAY GROUNDING PLAN
E-101 SCALE: 1/4" = 1'-0" NOTE: 1. VERIFY FINAL LAYOUT WITH OWNERS CONSTRUCTION MANAGER PRIOR TO INSTALLATION. 2. REFER TO CABLE TRAY INSTALLATION DETAILS.



4 LOWER LEVEL WIREWAY LAYOUT PLAN
E-101 SCALE: 1/4" = 1'-0" NOTE: VERIFY FINAL LAYOUT WITH OWNERS CONSTRUCTION MANAGER PRIOR TO INSTALLATION.

- ELECTRICAL WORK NOTES**
- 4" x 4", TYPE 1 CONTINUOUS SCREW COVER WIREWAY MOUNTED ALONG PERIMETER OF ROOM AGAINST CEILING.
 - SUPPORT BRACKET/SPACER (TYPICAL) (INSTALL AS REQUIRED).
 - (2) 3" CONDUITS CONNECTED TO PANELBOARD, MDP FROM WIREWAYS.
 - BOND TO MAIN GROUND BAR.
 - COORDINATE WITH MECHANICAL PLANS TO INTERFACE FAN CONTROL WITH HYDROGEN DETECTOR AND TEMPERATURE CONTROLS.
 - PROVIDE 3 #8, 1 #8 GROUND FROM PANELBOARD MDP-A ROUTED THROUGH THE PERIMETER WIREWAY FOR RECTIFIER BRANCH CIRCUITS: REFER TO PANELBOARD SCHEDULE MDP-A. PROVIDE 20' OF ADDITIONAL WIRING IN 1" FLEXIBLE METAL CONDUIT FOR FINAL TERMINATION BY OWNER.



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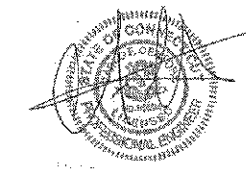
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Drawn Date: 07.29.13
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Project No: 2013.02 (CENTEK Proj No. 12027.00)
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Sheet Title:

**LOWER LEVEL
FITOUT PLANS -
ELECTRICAL**

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E-101



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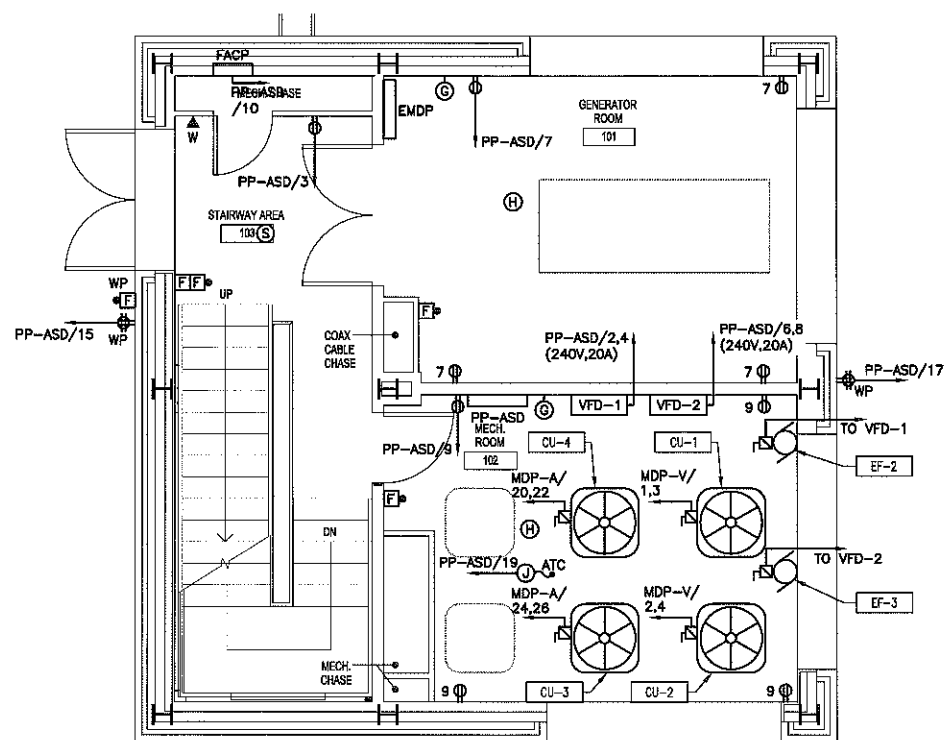
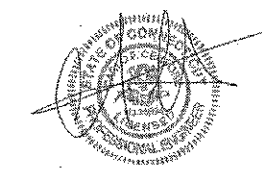
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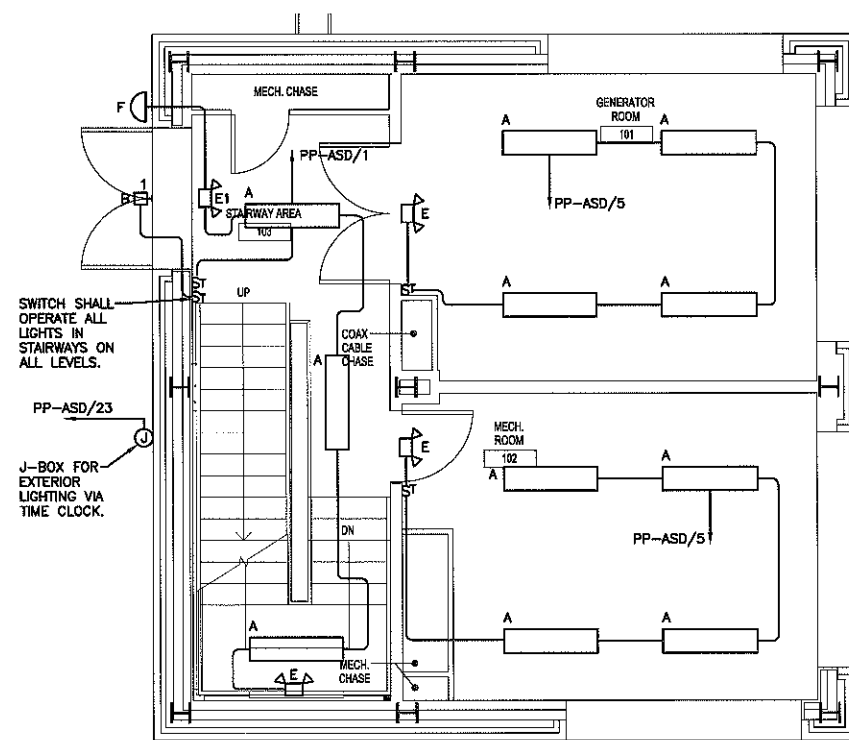
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1 FIRST FLOOR POWER PLAN
 E-102 SCALE: 1/4" = 1'- 0"



2 FIRST FLOOR LIGHTING PLAN
 E-102 SCALE: 1/4" = 1'- 0"

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Sheet Title:
**FIRST FLOOR
 FITOUT PLANS -
 ELECTRICAL**

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 Sheet Number: Revision:

E-102



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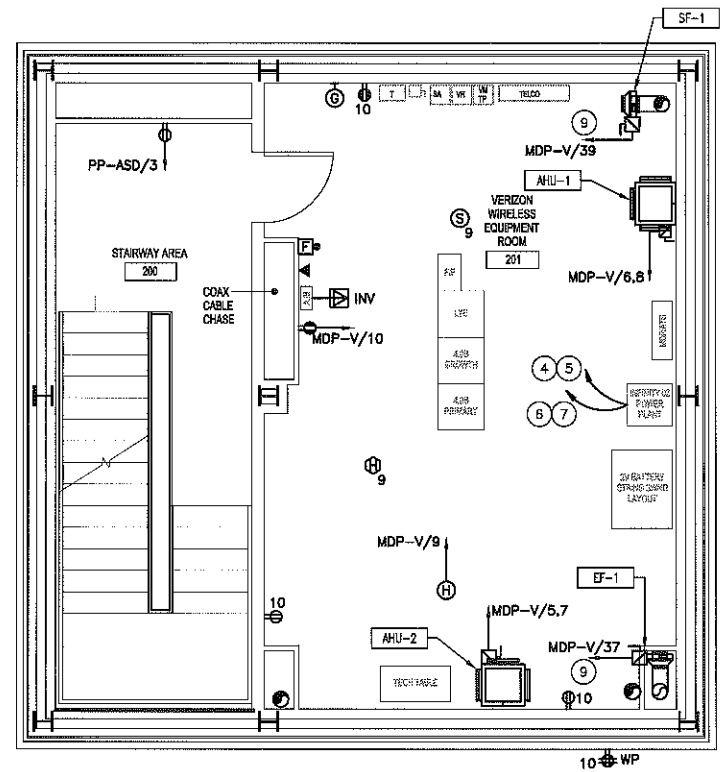
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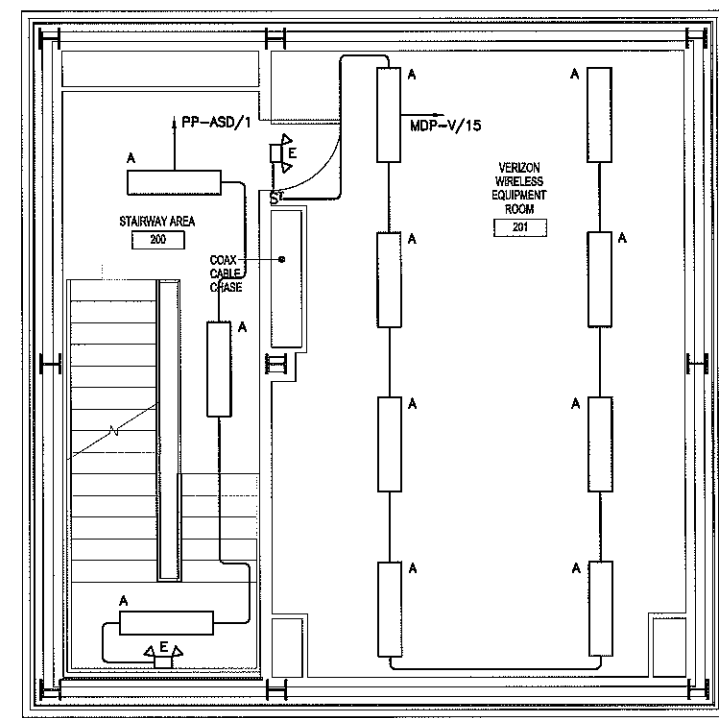
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ELECTRICAL WORK NOTES

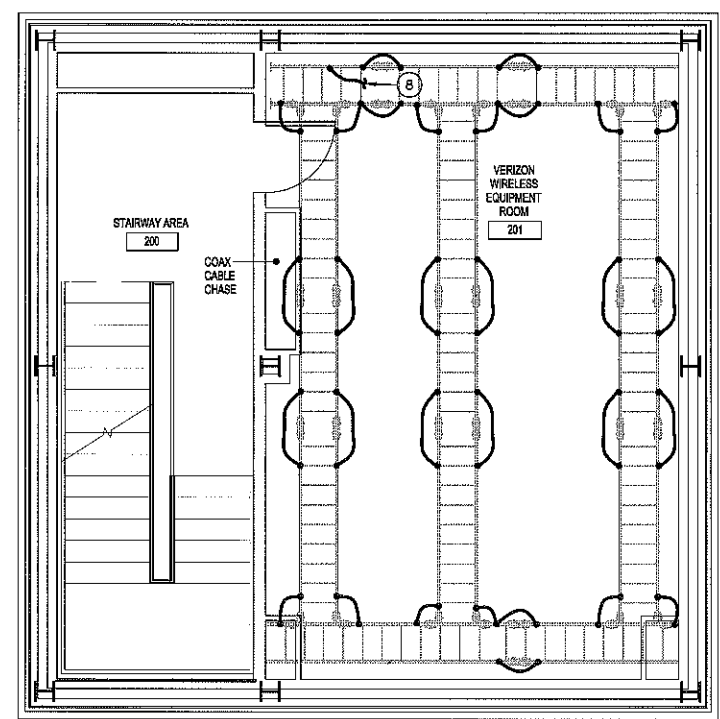
- ① 4" x 4", TYPE 1 CONTINUOUS SCREW COVER WIREWAY MOUNTED ALONG PERIMETER OF ROOM AGAINST CEILING.
- ② SUPPORT BRACKET/SPACER (TYPICAL) (INSTALL AS REQUIRED).
- ③ (2) 3" CONDUITS CONNECTED TO PANELBOARD, MDP FROM WIREWAYS.
- ④ PROVIDE 6 #10, 1 #10 GROUND FROM PANELBOARD MDP ROUTED THROUGH THE PERIMETER WIREWAY FOR BRANCH CIRCUITS: MDP-V, 17/19, 21/23 AND 25/27. PROVIDE 20' OF ADDITIONAL WIRING IN 1" FLEXIBLE METAL CONDUIT FOR FINAL TERMINATION BY OWNER.
- ⑤ PROVIDE 6 #10, 1 #10 GROUND FROM PANELBOARD MDP ROUTED THROUGH THE PERIMETER WIREWAY FOR BRANCH CIRCUITS: MDP-V, 16/18, 20/22 AND 24/26. PROVIDE 20' OF ADDITIONAL WIRING IN 1" FLEXIBLE METAL CONDUIT FOR FINAL TERMINATION BY OWNER.
- ⑥ PROVIDE 6 #10, 1 #10 GROUND FROM PANELBOARD MDP ROUTED THROUGH THE PERIMETER WIREWAY FOR BRANCH CIRCUITS: MDP-V, 28/30, 32/34 AND 36/38. PROVIDE 20' OF ADDITIONAL WIRING IN 1" FLEXIBLE METAL CONDUIT FOR FINAL TERMINATION BY OWNER.
- ⑦ BOND TO MAIN GROUND BAR.
- ⑧ COORDINATE WITH MECHANICAL PLANS TO INTERFACE FAN CONTROL WITH HYDROGEN DETECTOR AND TEMPERATURE CONTROLS.



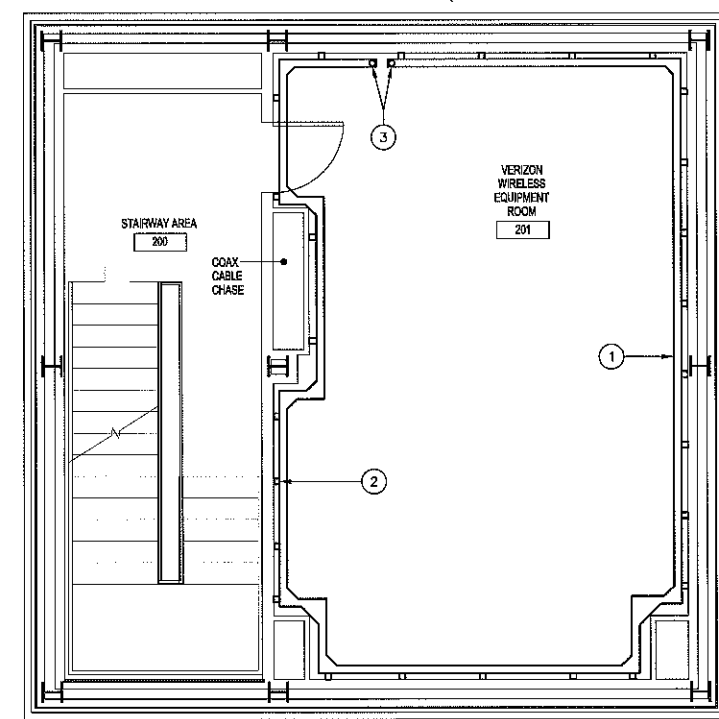
1 2ND FLOOR ELECTRICAL POWER PLAN
 E-103 SCALE: 1/4" = 1'- 0"
 NOTE:
 VERIFY FINAL LAYOUT WITH OWNERS
 CONSTRUCTION MANAGER PRIOR TO
 INSTALLATION.



2 2ND FLOOR ELECTRICAL LIGHTING PLAN
 E-103 SCALE: 1/4" = 1'- 0"
 NOTE:
 VERIFY FINAL LAYOUT WITH OWNERS
 CONSTRUCTION MANAGER PRIOR TO
 INSTALLATION.



3 2ND FLOOR CABLE TRAY GROUNDING PLAN
 E-103 SCALE: 1/4" = 1'- 0"
 NOTE:
 VERIFY FINAL LAYOUT WITH OWNERS
 CONSTRUCTION MANAGER PRIOR TO
 INSTALLATION.



4 2ND FLOOR WIREWAY LAYOUT PLAN
 E-103 SCALE: 1/4" = 1'- 0"
 NOTE:
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 Drawn Date: 07.29.13
 Reviewed by: CKO
 Project No: 2013.02 (CENTEK Proj No. 12027.00)
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Sheet Title:

**SECOND FLOOR
 FITOUT PLANS -
 ELECTRICAL**

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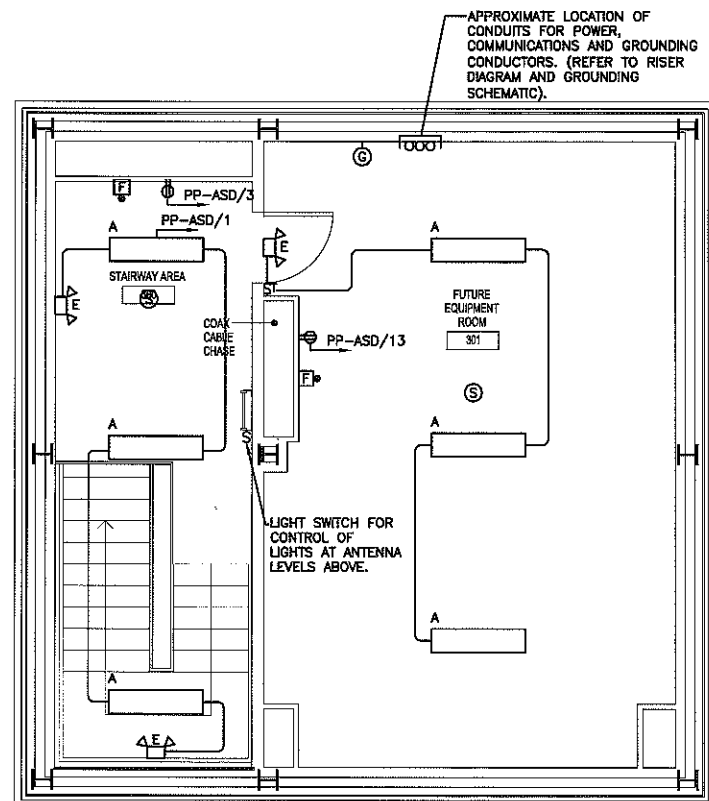
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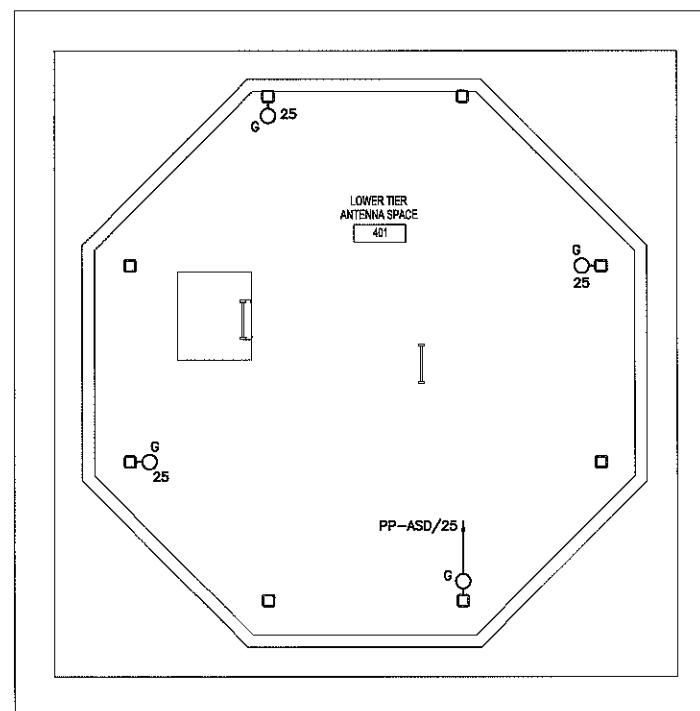
**THIRD FLOOR & TIER
ANTENNA SPACE FITOUT
PLANS - ELECTRICAL**

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E-104

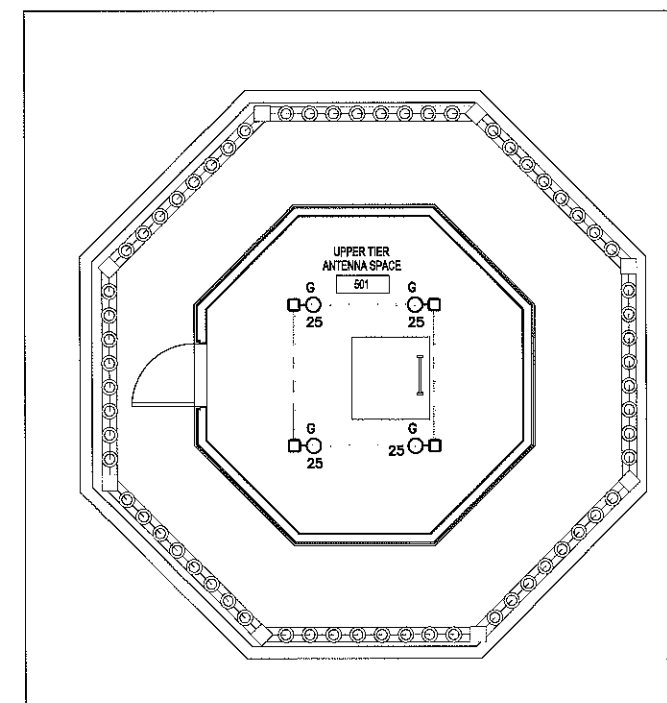


1 3RD FLOOR ELECTRICAL PLAN
E-104 SCALE: 1/4" = 1' - 0"



2 LOWER TIER ANTENNA SPACE ELECTRICAL PLAN
E-104 SCALE: 1/4" = 1' - 0"

NOTE:
LIGHTING SHOWN IS TYPICAL FOR BOTH LOWER TIER ANTENNA LEVELS.

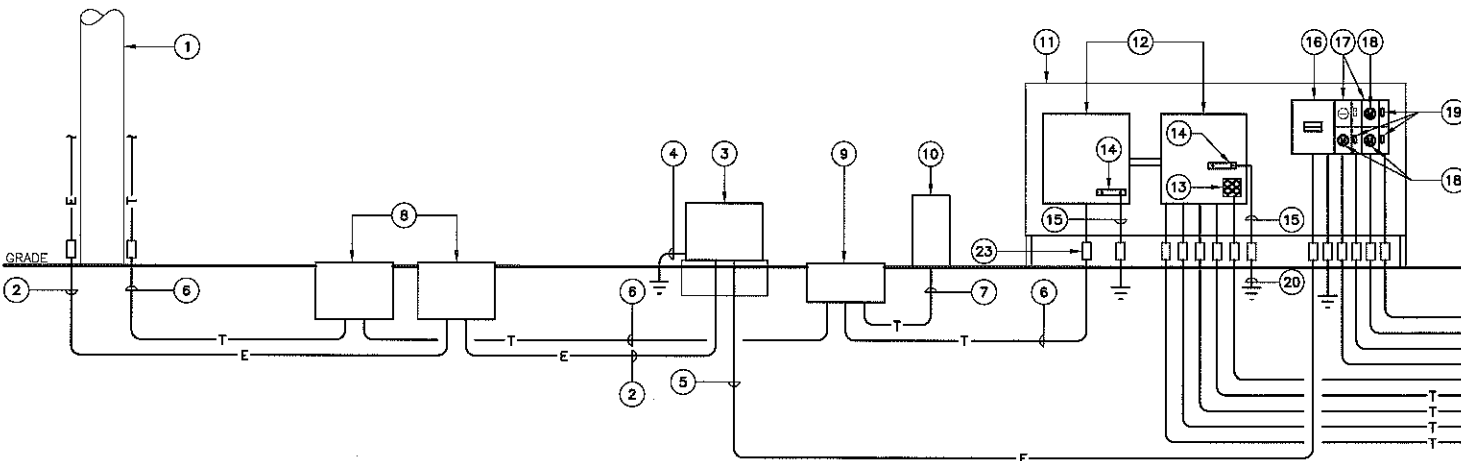


3 UPPER TIER ANTENNA SPACE ELECTRICAL PLAN
E-104 SCALE: 1/4" = 1' - 0"

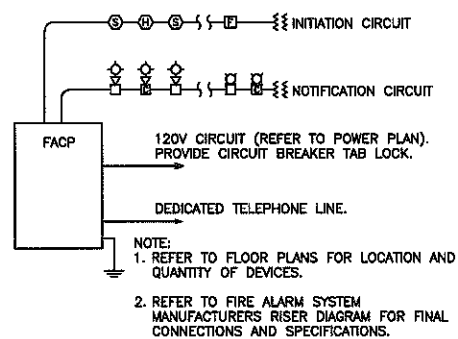
NOTE:
LIGHTING SHOWN IS TYPICAL FOR ALL THREE UPPER TIER ANTENNA LEVELS.

RISER NOTES

- 1 EXISTING UTILITY POLE TO BE USED. REFER TO SITE SURVEY AND UTILITY PLAN.
- 2 CONDUIT AND CONDUCTORS FROM TOP OF POLE TO TRANSFORMER. SEE HIGH VOLTAGE NOTES. FOR BIDDING PURPOSES ASSUME JACKETED #1 AL IN 4" RGS CONDUIT WITH 4" RGS SPARE, STRESS CONES, AND TYPICAL HIGH VOLTAGE LOCAL UTILITY COMPANY REQUIREMENTS. PROVIDE ALL COUPLINGS, ADAPTERS, SWEEPS, AND ASSOCIATED HARDWARE. MATERIAL SHALL BE PER UTILITY COMPANY SPECIFICATIONS.
- 3 HIGH VOLTAGE PRIMARY, 240/120V, 600A SECONDARY, SINGLE PHASE, UTILITY GRADE, EXTERIOR, PAD MOUNT TRANSFORMER AND CONCRETE VAULT. SEE HIGH VOLTAGE NOTES.
- 4 MINIMUM 4/0 AWG TRANSFORMER GROUNDING ELECTRODE CONDUCTOR FROM TRANSFORMER SECONDARY NEUTRAL BUS TO GROUNDING TRIAD AS SPECIFIED IN GROUNDING DETAILS. INSTALL 4/0 AWG BONDING JUMPER FROM NEUTRAL BUS TO TRANSFORMER EQUIPMENT GROUNDING TERMINAL. SEE HIGH VOLTAGE NOTES. INCREASE CONDUCTOR SIZE AS REQUIRED TO MEET UTILITY COMPANY AND NEC REQUIREMENTS.
- 5 TWO SETS OF: (3) 350 KCMIL, (1) #1 AWG GROUND, 4".
- 6 TWO 4" CONDUITS WITH PULL ROPES FOR TELEPHONE AND FIBER COMPANY CONDUCTORS. CONDUCTORS PROVIDED BY TELEPHONE COMPANY FROM UTILITY POLE TO UTILITY BOARD. PROVIDE ALL COUPLINGS, ADAPTERS, SWEEPS, AND ASSOCIATED HARDWARE. MATERIAL SHALL BE PER TELEPHONE COMPANY SPECIFICATIONS. COORDINATE REQUIREMENTS WITH TELEPHONE COMPANY AND FIBER COMPANY.
- 7 PROVIDE CONDUIT WITH PULL ROPE BETWEEN HANDHOLE AND PEDESTAL. EXPECT TWO 4" CONDUITS, BUT FINAL SIZE AND QUANTITY PER TELEPHONE COMPANY.
- 8 TELEPHONE AND ELECTRIC SPLICE BOXES. MUST BE TRAFFIC RATED. QUANTITY AND LOCATION PER UTILITY COMPANY SPECIFICATIONS. EXPECT TWO PER UTILITY.
- 9 TELEPHONE COMPANY HANDHOLE. INSTALL PER TELEPHONE COMPANY SPECIFICATIONS.
- 10 TELEPHONE COMPANY PEDESTAL. INSTALL PER TELEPHONE COMPANY SPECIFICATIONS.
- 11 UTILITY BACKBOARD. REFER TO CIVIL DRAWINGS.
- 12 TWO 3"x4"x1" NEMA-3R TELEPHONE ENCLOSURES INSTALLED NEXT TO EACH OTHER ON UTILITY BACKBOARD. MAINTAIN APPROXIMATELY 1' SEPARATION BETWEEN AND INSTALL A SECTION OF 4" CONDUIT CONNECTING BOTH BOXES.
- 13 PROVIDE DOUBLE DUPLEX, GFI RECEPTACLE IN WEATHERPROOF ENCLOSURE INSIDE OF TELEPHONE ENCLOSURE. CONNECT TO DEDICATED 20A/1P CIRCUIT IN BUILDING OWNER'S ELECTRIC PANEL.
- 14 PROVIDE GROUND BAR AS REQUIRED BY TELEPHONE COMPANY.
- 15 #2 AWG GROUNDING CONDUCTOR IN 3/4" PVC CONDUIT, UNLESS OTHERWISE SPECIFIED BY TELEPHONE COMPANY. BOND TO GROUNDING TRIAD.
- 16 600A, 240/120V, 1P, 65 KAIC RATED, NEMA-3R, MAIN CIRCUIT BREAKER MODULE WITH 600A/2P MAIN CIRCUIT BREAKER. (SQUARE-D: EZM1600CBU OR APPROVED EQUIVALENT.) MUST BE UTILITY COMPANY APPROVED. PROVIDE LABEL STATING TYPE AND LOCATION OF ONSITE GENERATOR PER NEC REQUIREMENTS.
- 17 TWO 2-GANG MULTI-METER BRANCH DEVICES WITH 240V, 1P, 3W, 225A RATED METER SOCKETS. (SQUARE-D: EZML12225 OR APPROVED EQUIVALENT). MUST BE UTILITY COMPANY APPROVED.
- 18 UTILITY COMPANY APPROVED METERS FOR VERIZON WIRELESS, AT&T, AND BUILDING OWNER IN AVAILABLE SOCKETS. PROVIDE LABELS INDICATING OWNER OF EACH SERVICE.
- 19 MAIN CIRCUIT BREAKERS IN AVAILABLE POSITION CORRESPONDING TO EACH SERVICE METER. PROVIDE 100A/2P CIRCUIT BREAKER FOR BUILDING OWNER AND 200A/2P FOR VERIZON WIRELESS AND AT&T.
- 20 3/0 AWG GROUNDING ELECTRODE CONDUCTOR IN 3/4" PVC CONDUIT BONDED TO GROUNDING TRIAD LOCATED AT UTILITY BACKBOARD. GROUNDING TRIAD SHALL BE BONDED TO COMPOUND GROUND RING WITH #2 AWG SOLID TINNED BARE COPPER WIRE.
- 21 (3) #3/0 AWG, (1) # 6 AWG GROUND, 2-1/2". FROM METER TO VERIZON WIRELESS INTEGRATED LOAD CENTER IN EQUIPMENT ROOM.
- 22 (2) #12 AWG, #12 AWG GROUND, 3/4". FROM DEDICATED 20A/1P CIRCUIT BREAKER IN BUILDING OWNER'S POWER PANEL TO RECEPTACLE IN TELCO BOXES.
- 23 EXPANSION COUPLING, TYPICAL.
- 24 (2) 4" PVC CONDUITS FOR TELEPHONE SERVICE. PROVIDE TELEPHONE CABLES AS REQUIRED BY TELEPHONE COMPANY AND OWNER. ONE CONDUIT SHALL REMAIN AS OWNERS SPARE, AND SHALL BE CAPPED AND LABELED AT BOTH ENDS. INSTALL PULL ROPE IN SPARE CONDUIT.
- 25 LOWER LEVEL ROOM FOR AT&T EQUIPMENT.
- 26 1ST FLOOR GENERATOR ROOM.
- 27 1ST FLOOR MECHANICAL ROOM.
- 28 2ND FLOOR VERIZON WIRELESS EQUIPMENT ROOM.
- 29 3RD FLOOR FUTURE TENANT SPACE.
- 30 CONDUIT STUBS IN FUTURE TENANT SPACE (ONE 3" POWER AND ONE 4" TELCO). PROVIDE DRAG LINES AND LABEL EACH END.
- 31 INTEGRATED LOAD CENTER IN VERIZON WIRELESS. REFER TO PANEL SCHEDULES.
- 32 INTEGRATED LOAD CENTER IN MECHANICAL ROOM FOR BUILDING OWNER. REFER TO PANEL SCHEDULES.
- 33 EMERGENCY MAIN DISTRIBUTION PANEL IN MECHANICAL ROOM FOR BUILDING OWNER. REFER TO PANEL SCHEDULES.
- 34 4" PVC CONDUIT FOR TELEPHONE SERVICE. PROVIDE TELEPHONE CABLES AS REQUIRED BY TELEPHONE COMPANY AND OWNER.
- 35 1" CONDUIT WITH CONDUCTORS FROM GENERATOR TO TRANSFER SWITCH FOR CONTROL WIRING. INSTALL PER MANUFACTURER'S SPECIFICATIONS.
- 36 PROVIDE DEDICATED TELEPHONE LINE FOR FACP.
- 37 FIRE ALARM CONTROL PANEL ("FACP"). REFER TO FIRE ALARM RISER DIAGRAM AND SPECIFICATIONS.
- 38 130 KW NATURAL GAS FUELED GENERAC GENERATOR WITH 400A OUTPUT CIRCUIT BREAKER. FOR USE BY VERIZON WIRELESS, AT&T AND BUILDING OWNER.
- 39 GENERATOR GROUNDING PER NEC.
- 40 GENERATOR BLOCK HEATER.
- 41 GENERATOR BATTERY CHARGER.
- 42 (3) # 3/0 AWG, (1) # 6 AWG GROUND, 2-1/2". FROM METER TO AT&T INTEGRATED LOAD CENTER IN EQUIPMENT ROOM.
- 43 CONDUIT AND CONDUCTORS FROM EMERGENCY DISTRIBUTION PANEL TO EMERGENCY LUGS IN INTEGRATED LOAD CENTERS FOR VERIZON WIRELESS, AT&T, AND BUILDING OWNER. CONDUIT AND CONDUCTORS TO MATCH THOSE SPECIFIED FROM METER CENTER.



1 ELECTRICAL RISER DIAGRAM
E-201 NOT TO SCALE



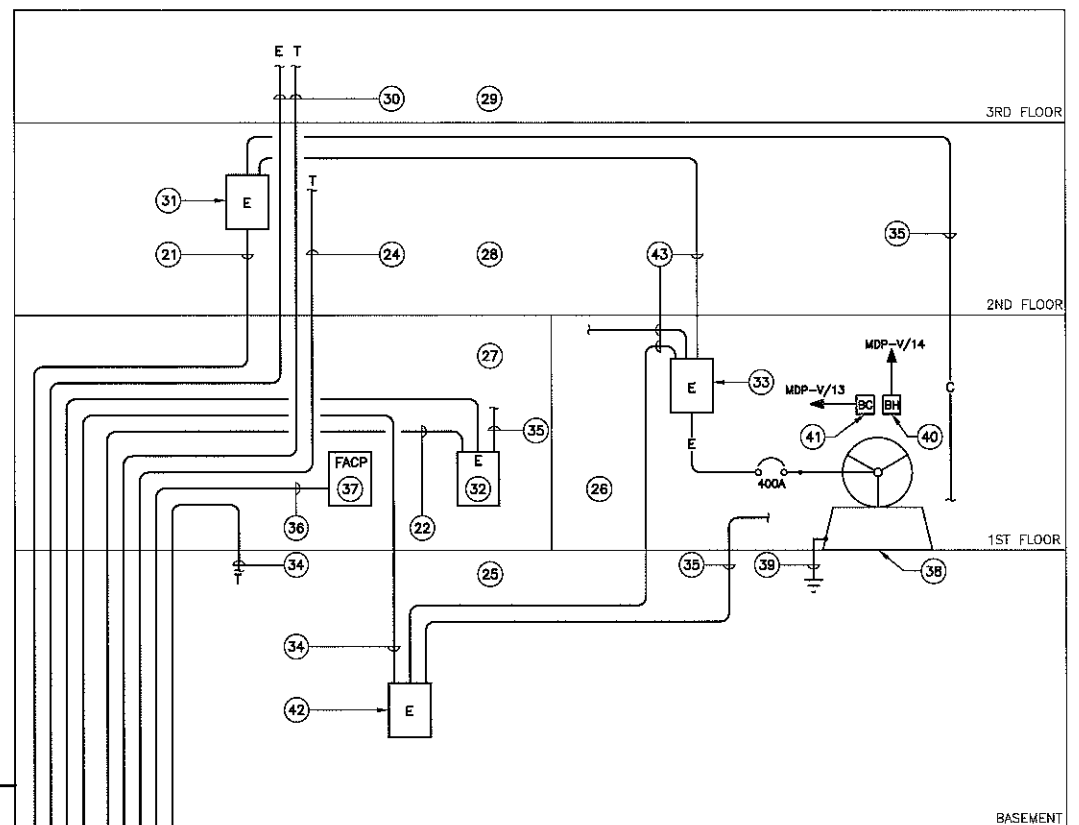
2 FIRE ALARM RISER DIAGRAM
E-201 NOT TO SCALE

GENERAL NOTES

1. THE TERM "UTILITY COMPANY" WHEN USED IN REFERENCE TO THE ELECTRICAL INSTALLATION SHOWN ON THIS PLAN SHALL REFER TO CL&P AND THE PROPERTY OWNER'S DESIGNATED REPRESENTATIVE.
2. CONTRACTOR TO VERIFY ALL CONDUIT ROUTING AND INSTALLATION REQUIREMENTS WITH LOCAL UTILITIES PRIOR TO INSTALLATION.
3. ALL CONDUITS SHALL HAVE EXPANSION COUPLINGS WHERE EXTENDING ABOVE GRADE.
4. REFER TO SITE UTILITY PLAN.
5. TELEPHONE EQUIPMENT SHOWN APPROXIMATE. COORDINATE WITH TELEPHONE UTILITY COMPANY AND PROVIDE ALL SPECIFIED EQUIPMENT.
6. COORDINATE SERVICE EQUIPMENT INTERRUPTING RATING WITH AVAILABLE FAULT CURRENT FROM UTILITY COMPANY. EQUIPMENT SHALL NOT BE RATED LESS THAN 65 KAIC.
7. ALL TELEPHONE AND ELECTRIC UTILITY WORK MUST BE COORDINATED WITH UTILITY COMPANY, AND ALL EQUIPMENT MUST BE UTILITY COMPANY APPROVED. CONTRACTOR SHALL PROVIDE ALL ELEMENTS NOT PROVIDED BY UTILITY COMPANIES.
8. CONDUCTOR SIZES SHALL NOT BE REDUCED OR SUBSTITUTED WITHOUT ENGINEERS APPROVAL.
9. ALL SECONDARY CONDUCTORS AND CONDUCTOR TERMINATIONS SHALL BE RATED FOR 75° C OPERATION.

HIGH VOLTAGE NOTES:

ALL ELECTRICAL WORK FROM UTILITY POLE UP TO AND INCLUDING THE TRANSFORMER SHALL BE CONSIDERED HIGH VOLTAGE AND MUST BE PERFORMED BY A LICENSED HIGH VOLTAGE CONTRACTOR, RECOMMENDED AND APPROVED BY THE LOCAL UTILITY COMPANY, AND HAVING MINIMUM 5 YEARS OF RELEVANT EXPERIENCE. THE ENTIRE HIGH VOLTAGE INSTALLATION SHALL BE PER LOCAL ELECTRIC UTILITY SPECIFICATIONS FOR PERFORMANCE AND PUBLIC SAFETY. ALL HIGH VOLTAGE WORK MUST BE INSPECTED AND APPROVED BY THE LOCAL ELECTRICAL INSPECTOR OR APPROPRIATELY QUALIFIED INSPECTOR APPROVED BY THE LOCAL ELECTRICAL INSPECTOR. ALL TRANSFORMER TERMINATIONS INCLUDING GROUNDING SHALL BE PERFORMED BY HIGH VOLTAGE CONTRACTOR.



**CLOCK TOWER
AMERICAN SCHOOL FOR
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139 North Main Street
West Hartford, Connecticut

Prepared For
VERIZON WIRELESS

Project No: 2013.02



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| 0 | D&M Submission (Not for Construction) | 07.29.13 |
| 1 | D&M Submission (Not for Construction) | 09.09.13 |
| 2 | D&M Submission (Client Review) | 10.08.13 |
| 3 | D&M Submission (Final-Not for Construction) | 10.21.13 |

Drawn by: TJB
Drawn Date: 07.29.13
Reviewed by: CKD
Project No: 2013.02 (CENTEK Proj No. 12027.00)
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**ELECTRICAL RISER
DIAGRAMS**

Original drawing is D. Do not scale contents of the drawing.
Sheet Number: Revision:

E-201



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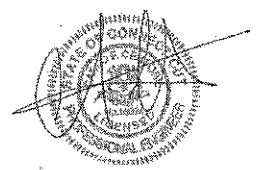
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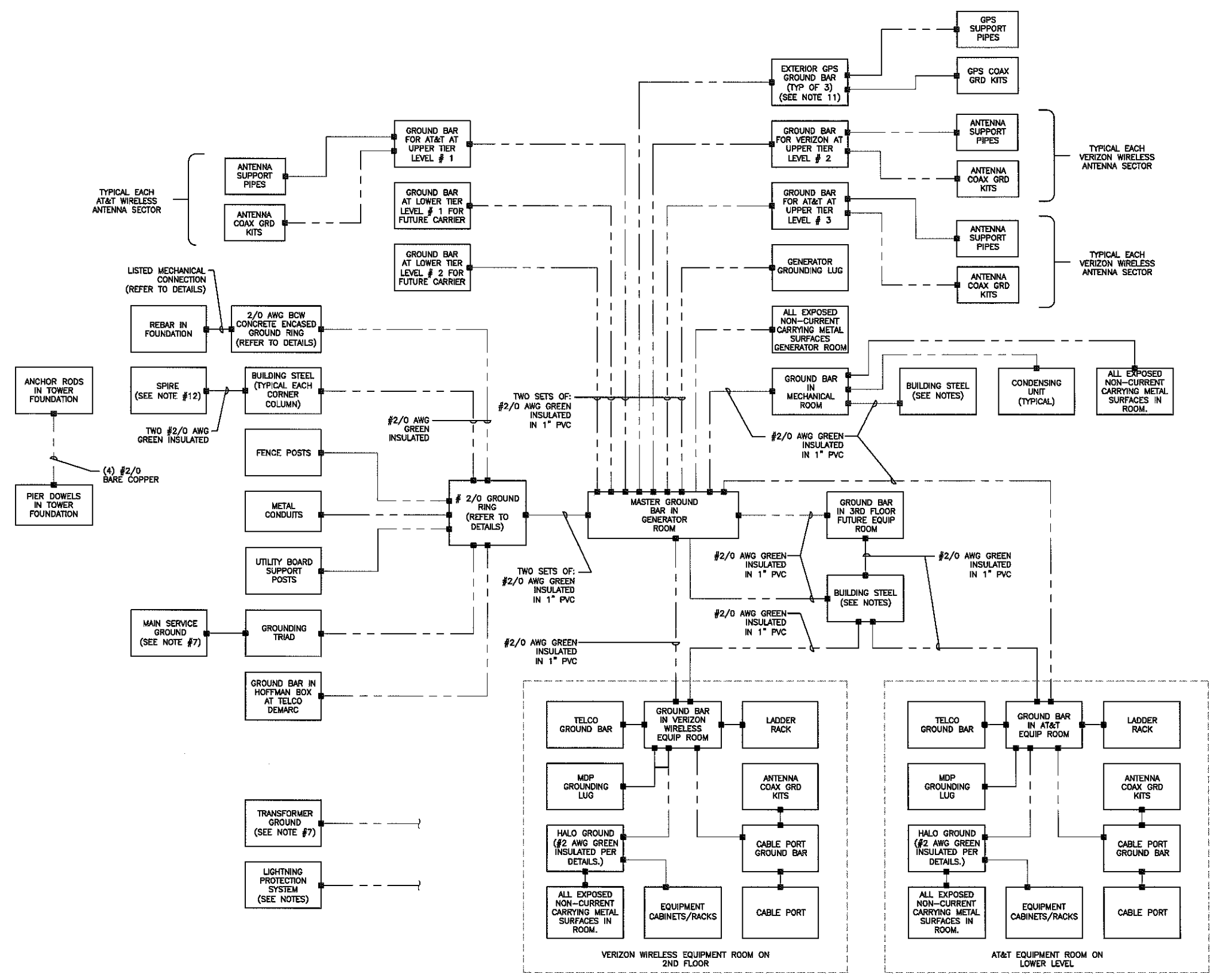
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Sheet Title:
**SCHEMATIC
 GROUNDING RISER
 DIAGRAM**

Original drawing is D. Do not scale contents of this drawing.
 Sheet Number: Revisions:

E-202

- NOTES**
- GROUND CONDUCTORS SHOWN SHALL BE #2 AWG BCW UNLESS OTHERWISE NOTED.
 - GROUND CABLE TRAY SECTIONS TOGETHER WITH #6 STRANDED GREEN INSULATED JUMPERS.
 - ALL SECTOR GROUND BARS FOR EACH CARRIER SHALL BE BONDED TOGETHER WITH A #2 AWG BCW.
 - ALL EXPOSED METAL OBJECTS IN EACH EQUIPMENT ROOM SHALL BE BONDED TO THE HALO GROUND WITHIN THAT ROOM.
 - REFER TO ALL ELECTRICAL AND GROUNDING DETAILS.
 - REFER TO GROUNDING PLAN FOR ADDITIONAL INFORMATION AND LOCATION OF GROUNDING DEVICES.
 - REFER TO RISER DIAGRAM FOR SPECIFICATIONS OF SERVICE GROUND AND TRANSFORMER GROUND.
 - PROVIDE ANY ADDITIONAL GROUNDING ELEMENTS REQUIRED BY NEC, EIA/TIA, CT BUILDING CODE, OR PROPERTY OWNER.
 - COORDINATE WITH LIGHTNING PROTECTION VENDOR FOR ADDITIONAL INFORMATION AND REQUIREMENTS FOR LIGHTNING PROTECTION SYSTEM. VENDOR SHALL BE NORTHEAST LIGHTNING PROTECTION. PROVIDE ALL ELEMENTS NOT PROVIDED BY VENDOR.
 - COORDINATE WITH EACH CARRIER FOR ANY ADDITIONAL REQUIREMENTS.
 - PROVIDE ONE GPS GROUND BAR WITH TWO DOWNLEAD IN EACH EQUIPMENT ROOM, AND AT EACH ANTENNA LEVEL.
 - BOND SPIRE TO TWO COLUMNS LOCATED IN OPPOSITE CORNERS OF STRUCTURE. COORDINATE WITH LIGHTNING PROTECTION VENDOR.
 - BOND TO BUILDING STEEL COLUMN IN CORNER OF EACH ROOM ABOVE CEILING. USE BONDING TAB INSTALLED BY STEEL FABRICATOR. PROVIDE ACCESS PANEL FOR INSPECTION AND TESTING.



1 SCHEMATIC DIAGRAM-GROUNDING SYSTEM
 E-202 NOT TO SCALE



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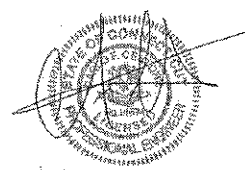
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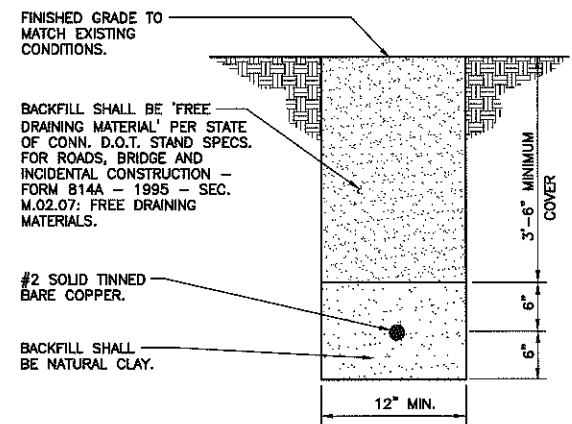
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**ELECTRICAL
 DETAILS**

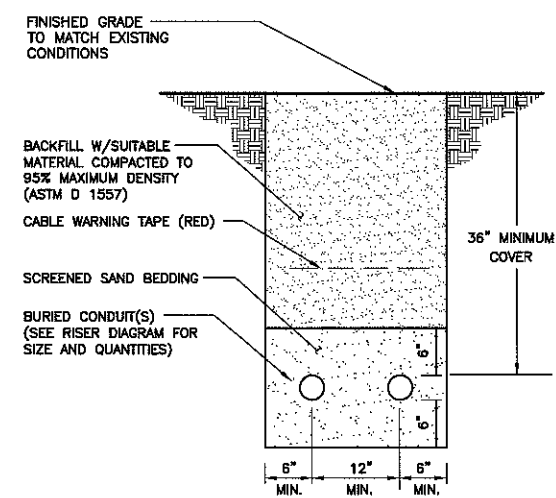
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E-301



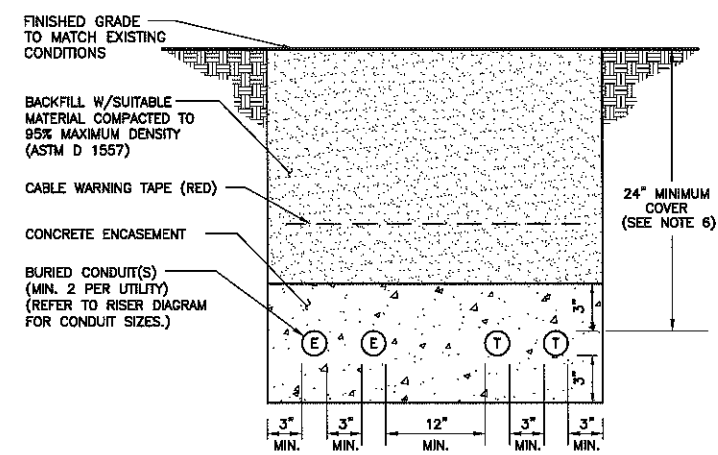
- NOTES**
- ENGINEER SHALL INSPECT PLACEMENT OF EGR CONDUCTOR PRIOR TO BACKFILLING.
 - MAINTAIN MIN. 2'-0" LINEAR CLEARANCE BETWEEN NATURAL CLAY BACKFILL AND THE FOLLOWING: FOUNDATION, UNDERGROUND PIPING/CONDUIT, UNDERGROUND SERVICES. IN THE CLEARANCE AREAS, USE EARTH BACKFILL INSTEAD.
 - EXERCISE HANDLING AND USE PRECAUTION OF BACKFILL MATERIAL PER MFR'S REQUIREMENTS.

1 EGR TRENCH/BACKFILL DETAIL
 E-301 NOT TO SCALE



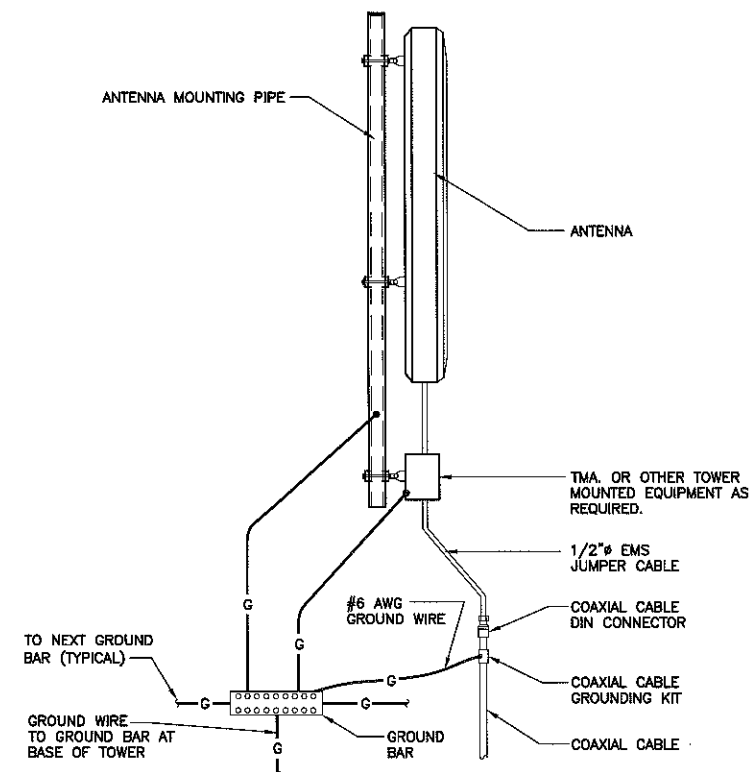
- NOTES**
- THE CLEAN FILL SHALL PASS THROUGH A 3/8" MESH SCREEN AND SHALL NOT CONTAIN SHARP STONES. OTHER BACKFILL SHALL NOT CONTAIN ASHES, CINDERS, SHELLS, FROZEN MATERIAL, LOOSE DEBRIS OR STONES LARGER THAN 2" IN MAXIMUM DIMENSION.
 - WHERE EXISTING UTILITIES ARE LIKELY TO BE ENCOUNTERED, CONTRACTOR SHALL HAND DIG AND PROTECT EXISTING UTILITIES.
 - WHERE SHALLOW BEDROCK IS ENCOUNTERED BETWEEN UTILITY SOURCE AND SERVICE EQUIPMENT, COORDINATE WITH UTILITY COMPANY FOR BURIAL DEPTH REQUIREMENTS.
 - COORDINATE WITH ELECTRICAL ENGINEER WHERE SHALLOW BEDROCK IS ENCOUNTERED BETWEEN SERVICE EQUIPMENT AND EQUIPMENT SHELTER.

3 TYPICAL ELECTRICAL TRENCH DETAIL
 E-301 NOT TO SCALE



- NOTES**
- THE CLEAN FILL SHALL PASS THROUGH A 3/8" MESH SCREEN AND SHALL NOT CONTAIN SHARP STONES. OTHER BACKFILL SHALL NOT CONTAIN ASHES, CINDERS, SHELLS, FROZEN MATERIAL, LOOSE DEBRIS OR STONES LARGER THAN 2" IN MAXIMUM DIMENSION.
 - WHERE EXISTING UTILITIES ARE LIKELY TO BE ENCOUNTERED, CONTRACTOR SHALL HAND DIG AND PROTECT EXISTING UTILITIES.
 - WHERE SHALLOW BEDROCK IS ENCOUNTERED BETWEEN UTILITY SOURCE AND SERVICE EQUIPMENT, COORDINATE WITH UTILITY COMPANY FOR BURIAL DEPTH REQUIREMENTS.
 - COORDINATE WITH ELECTRICAL ENGINEER WHERE SHALLOW BEDROCK IS ENCOUNTERED BETWEEN SERVICE EQUIPMENT AND EQUIPMENT SHELTER.
 - PROVIDE MINIMUM TWO CONDUITS FOR EACH UTILITY.
 - THIS DETAIL SHALL BE USED FOR CONDUITS INSTALLED WITH LESS THAN 36" COVER. FOR INSTALLATIONS WITH 36" OR MORE COVER, INSTALL IN ELECTRICAL TRENCH WITHOUT CONCRETE (REFER TO APPROPRIATE DETAILS). CONDUIT COVER SHALL NOT BE LESS THAN 24".

2 TYPICAL ELECTRICAL TRENCH WITH CONCRETE DETAIL
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4 TYPICAL ANTENNA GROUNDING DETAIL
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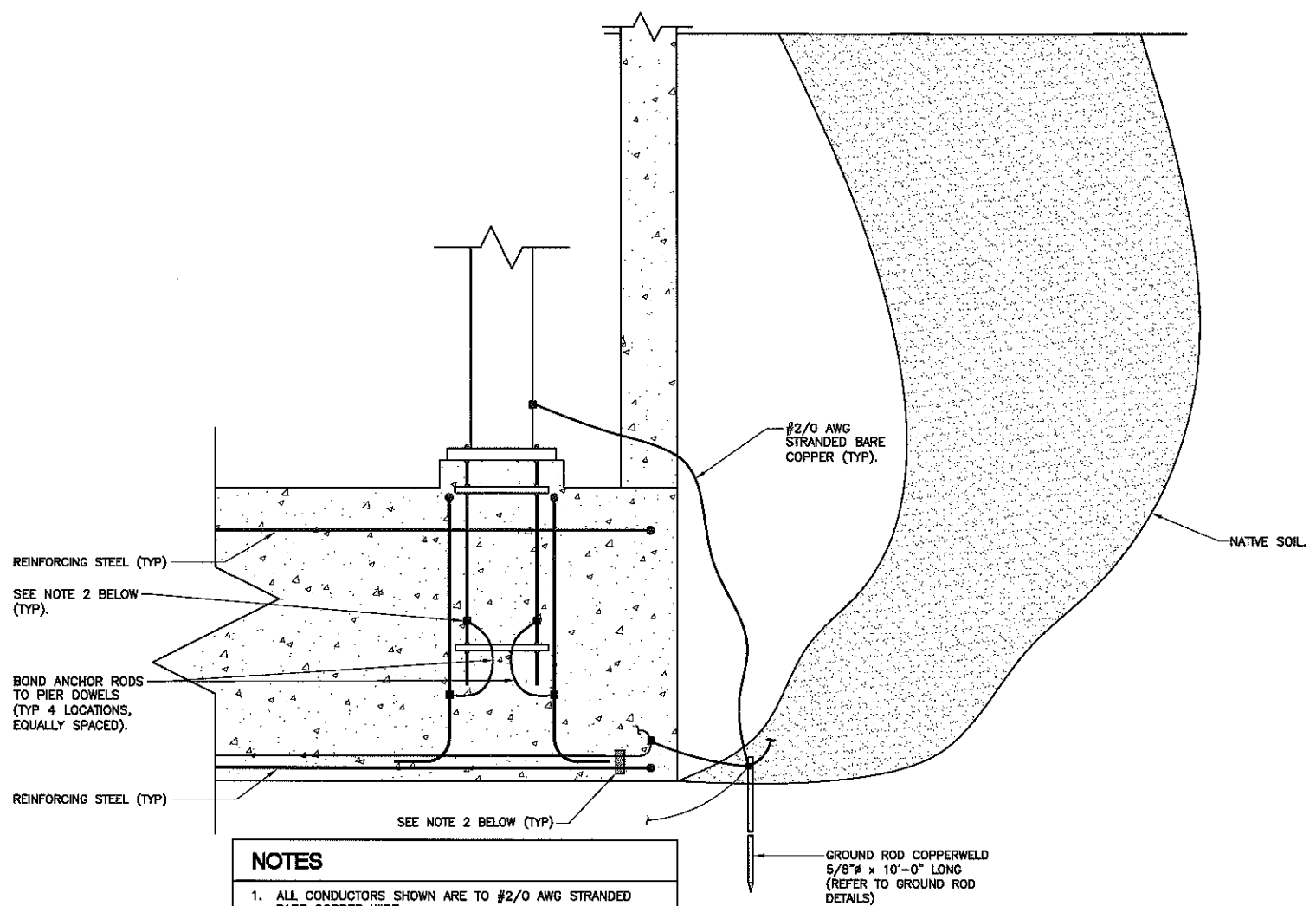
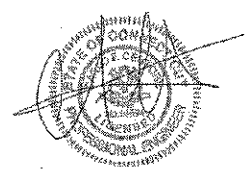
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- NOTES**
1. ALL CONDUCTORS SHOWN ARE TO #2/0 AWG STRANDED BARE COPPER WIRE.
 2. COPPER CONDUCTORS SHALL BE BONDED TO REINFORCING STEEL INSTALLED ON TOP OF LOWEST LAYER OF REBAR AND AT EACH CORNER USING BURNDY TYPE GAR WIRE-REBAR CLAMPS.
 3. REFER TO ALL OTHER GROUNDING DETAILS FOR ADDITIONAL INFORMATION.

1 TOWER FOUNDATION GROUNDING DETAIL
 E-302 NOT TO SCALE

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ELECTRICAL
DETAILS

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E-302

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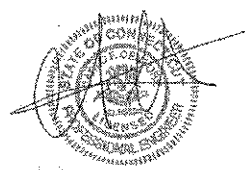
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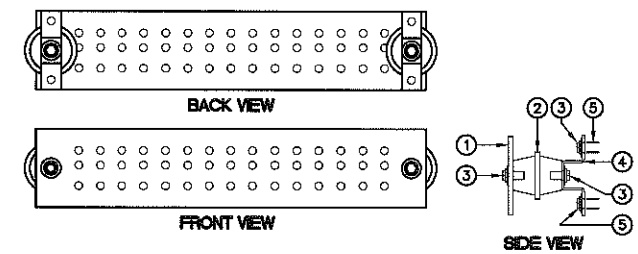
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**ELECTRICAL
 DETAILS**

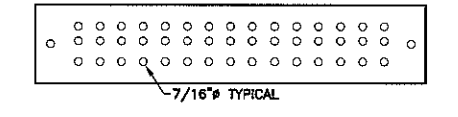
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E-303

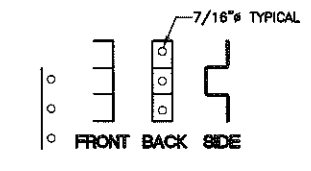
- NOTES**
- 1 HIGH CONDUCTIVITY TINNED COPPER BAR 1'-8" L x 4" W x 1/4" D.
 - 2 RED COLORED STANDOFF INSULATOR PLASTIC #1872-1A.
 - 3 STAINLESS STEEL TRUSS SPANNER MACHINE SCREWS, SPLIT LOCKWASHER AND FLAT WASHER.
 - 4 1" W x 1/8" T STAINLESS STEEL TYPE 304 BRACKET.
 - 5 STAINLESS STEEL TYPE 304 HARDWARE - 3/8" EXPANSION BOLT FOR CONCRETE.



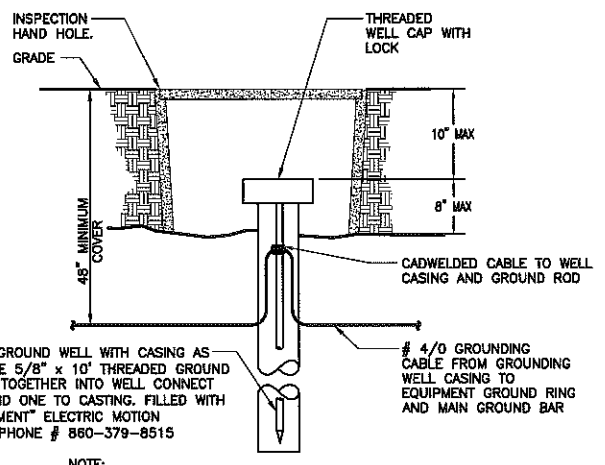
TYPICAL GROUND BAR ASSEMBLY
 N.T.S.



TYPICAL GROUND BAR - DIMENSIONS
 N.T.S.

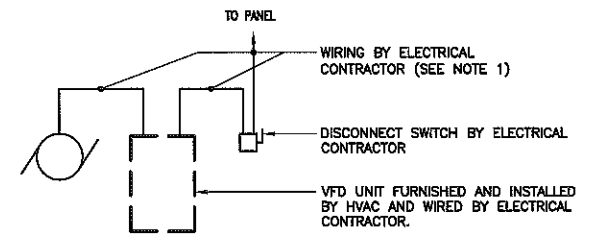


BRACKET FOR GROUND BAR - DIMENSIONS
 N.T.S.



- NOTE:**
1. INSPECTION HAND HOLE MAY BE CONCRETE OR PVC AND SHALL BE A MINIMUM OF 12" DIA X 18" DEEP.
 2. TO BE INCORPORATED INTO PROJECT IF 5 OHMS CAN NOT BE ACHIEVED AT THE PROJECT SITE

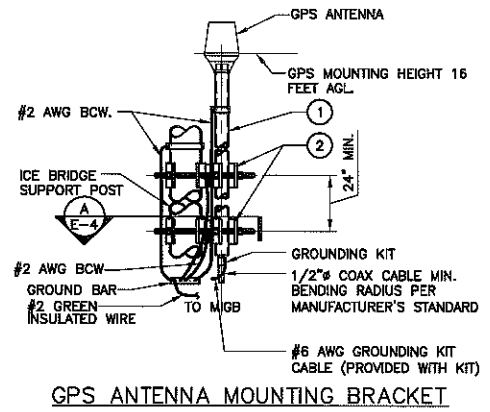
2 GROUNDING WELL DETAIL
 E-303 NOT TO SCALE



- NOTE:**
1. REFER TO MOTOR WIRING SCHEDULE FOR WIRE AND CONDUIT SIZE REQUIREMENTS FOR EACH FAN MOTOR, UNLESS OTHERWISE NOTED ON POWER PLAN. COORDINATE WITH MANUFACTURERS SPECIFICATIONS.

3 VFD UNIT WIRING SCHEMATIC
 E-303 NOT TO SCALE

1 MASTER/EQUIPMENT GROUND BAR DETAILS
 E-303 N.T.S.



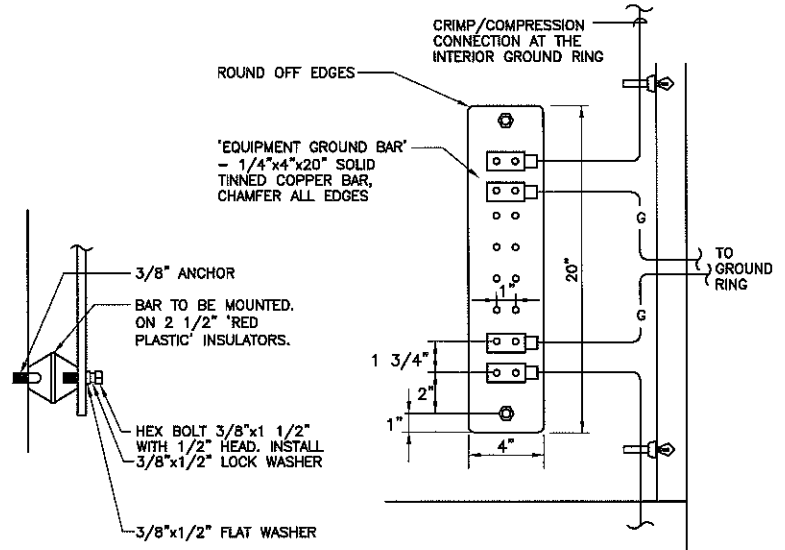
GPS ANTENNA MOUNTING BRACKET

BILL OF MATERIALS

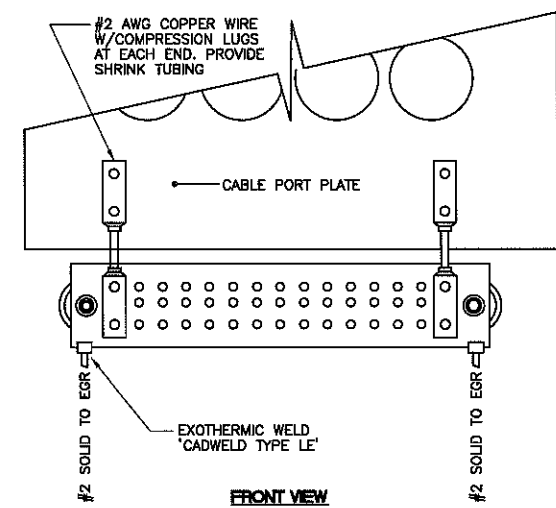
| ITEM | DESCRIPTION | QUANTITY |
|------|---|----------|
| 1 | 2-1/2" SCH. 40 x 8'-0" LG. MAX SS OR GALV. PIPE | 1 |
| 2 | UNIVERSAL CLAMP SET. | 2 |

4 GPS GROUNDING/MOUNTING BRACKET DETAIL
 E-303 NOT TO SCALE

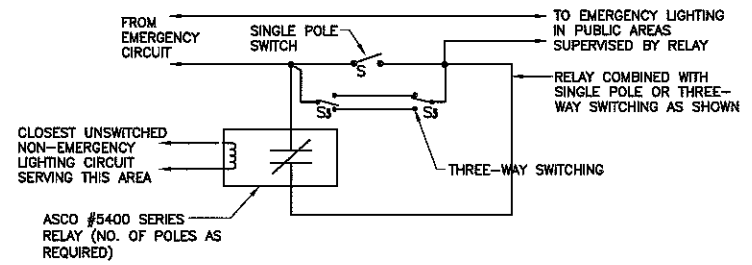
- NOTES**
- 1 THE ELEVATION AND LOCATION OF THE GPS ANTENNA SHALL BE IN ACCORDANCE WITH THE FINAL RF REPORT.
 - 2 THE GPS ANTENNA MOUNT IS DESIGNED TO FASTEN TO A STANDARD 2-1/2" DIAMETER, SCHEDULE 40, GALVANIZED STEEL OR STAINLESS STEEL PIPE. THE PIPE MUST NOT BE THREADED AT THE ANTENNA MOUNT END. THE PIPE SHALL BE CUT TO THE REQUIRED LENGTH (MINIMUM OF 24 INCHES) USING A HAND OR ROTARY PIPE CUTTER TO ASSURE A SMOOTH AND PERPENDICULAR CUT. A HACK SAW SHALL NOT BE USED. THE CUT PIPE END SHALL BE DEBURRED AND SMOOTH IN ORDER TO SEAL AGAINST THE NEOPRENE GASKET ATTACHED TO THE ANTENNA MOUNT.



5 EQUIPMENT GROUND BAR DETAIL
 E-303 NOT TO SCALE

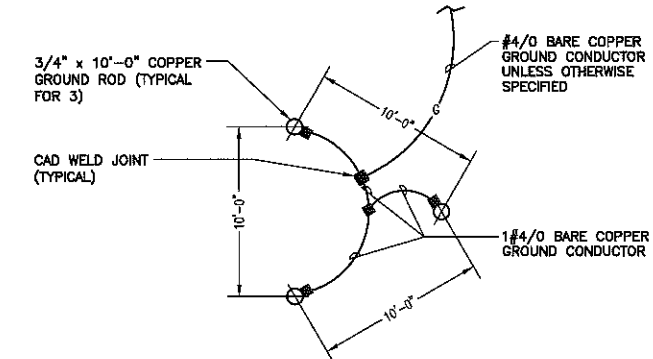


6 CABLEPORT GROUND BAR LUG CONNECTION
 E-303 NOT TO SCALE



- NOTE:**
- ALL SWITCH CONTROLLED EMERGENCY LIGHTING IN PUBLIC AREAS, EGRESS ROUTES AND ALL "NORMALLY-OFF" EMERGENCY LIGHTING SHALL BE CONTROLLED BY AN EMERGENCY SUPERVISORY RELAY TO AUTOMATICALLY ENERGIZE EMERGENCY LIGHTS WHEN NORMAL POWER FAILS.

7 DETAIL OF EMERGENCY SUPERVISORY BY-PASS-RELAY
 E-303 NOT TO SCALE



8 GROUND TRIAD DETAIL
 E-303 NOT TO SCALE

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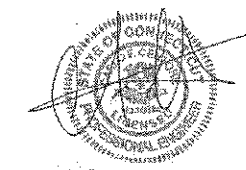
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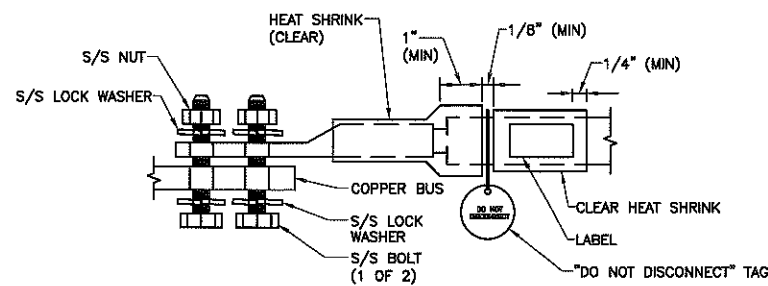
| Rev. | Description | Date |
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Drawn Date: 07.29.13
Reviewed by: OKD
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DETAILS**

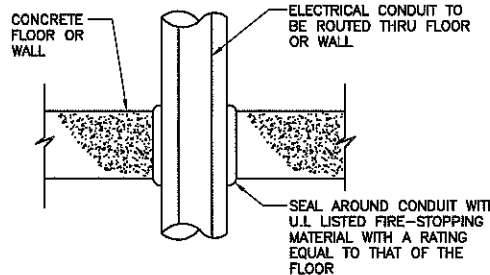
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Sheet Number: Revision:

E-304

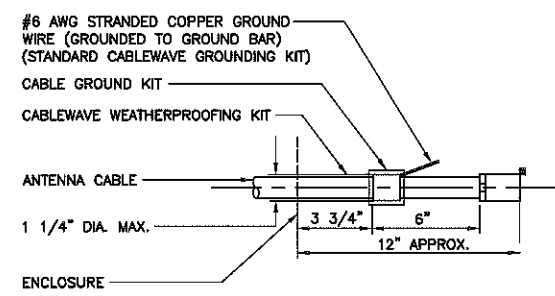


- NOTES**
1. ALL HARDWARE 18-8 STAINLESS STEEL INCLUDING LOCK WASHERS, COAT ALL SURFACES WITH ANTI OXIDANT BEFORE MATING.
 2. FOR GROUND BOND TO STEEL ONLY: INSERT A DRAGON TOOTH WASHER BETWEEN LUG AND STEEL, COAT ALL SURFACES WITH ANTI OXIDANT.

1 GENERAL LUG DETAIL
E-304 NOT TO SCALE

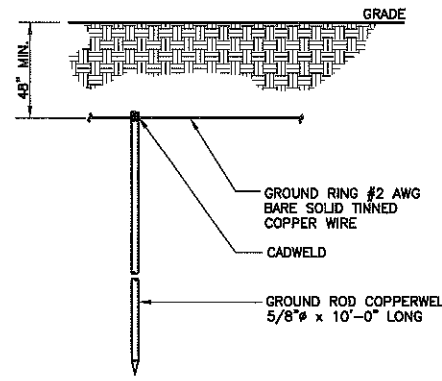


2 TYPICAL CONDUIT FLOOR PENETRATION
E-304 NOT TO SCALE



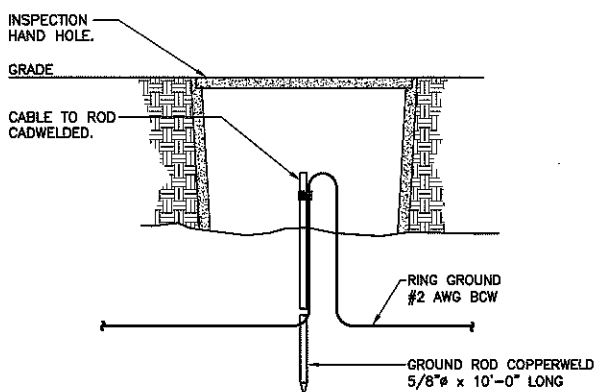
- NOTE:**
1. DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO GROUND BAR.

3 ANTENNA CABLE GROUNDING DETAIL
E-304 NOT TO SCALE



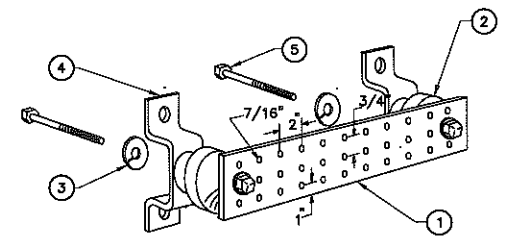
- NOTE:**
1. USE GROUND PLATE DETAIL IF 10 FT. GROUND ROD DEPTH CANNOT BE ACHIEVED DUE TO LEDGE CONDITION OR IF EXISTING TOWER FOUNDATION IS ENCOUNTERED.

4 GROUND ROD DETAIL
E-304 NOT TO SCALE



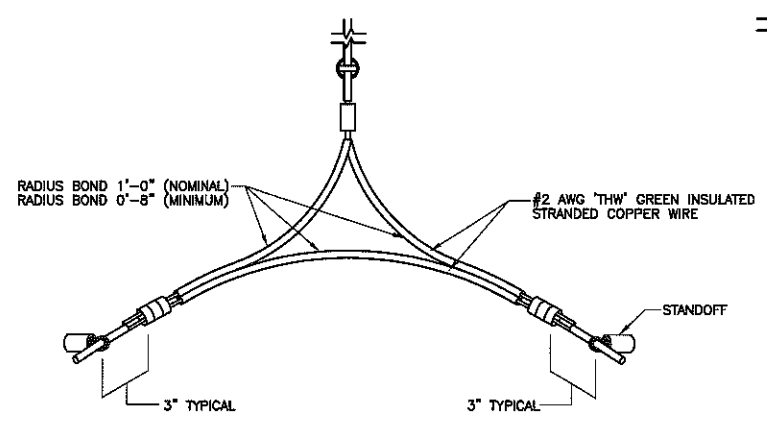
- NOTE:**
1. INSPECTION HAND HOLE MAY BE CONCRETE OR PVC AND SHALL BE A MINIMUM OF 12\"/>

5 GROUND ROD WITH ACCESS DETAIL
E-304 NOT TO SCALE

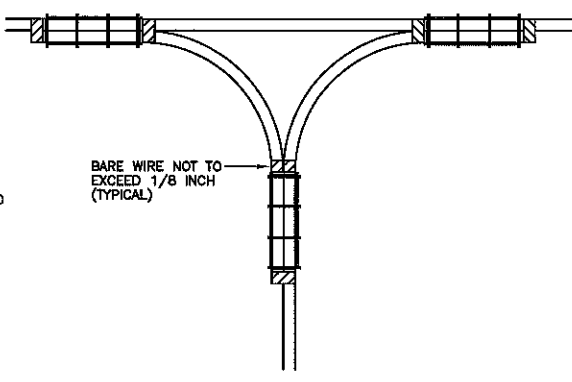


- NOTES**
1. TINNED COPPER GROUND BAR, 1/4\"/>
 2. INSULATORS, NEWTON INSTRUMENT CAT. NO. 3061-4.
 3. 5/8\"/>
 4. WALL MOUNTING BRACKET, NEWTON INSTRUMENT CO. CAT NO. A-6056.
 5. 5/8-11 x 1\"/>

6 GROUND BAR DETAIL
E-304 NOT TO SCALE

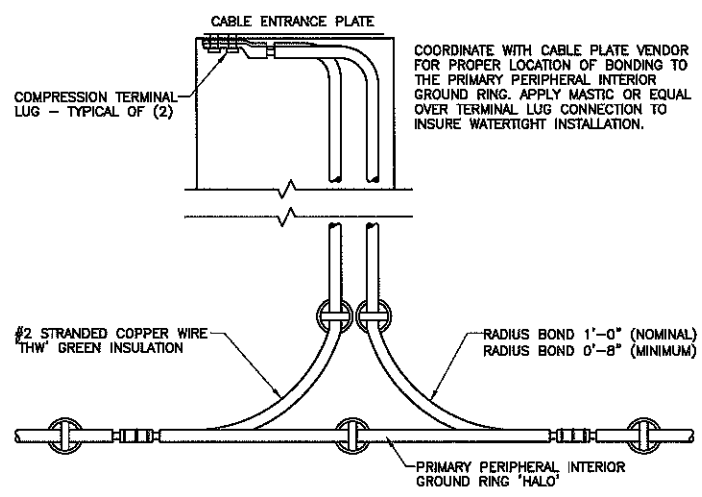


7 ISOMETRIC VIEW OF VERTICAL NONDIRECTIONAL SPLICE FOR CORNER INSTALLATION
E-304 N.T.S.

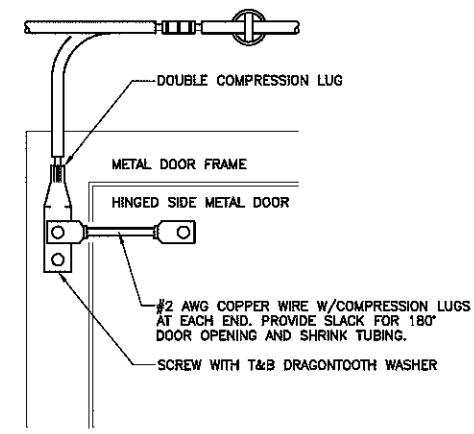


8 HORIZONTAL NONDIRECTIONAL SPLICE
E-304 N.T.S.

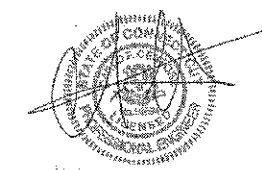
HORIZONTAL OMNI-DIRECTIONAL SPLICE FOR CONNECTING:
1. SUPPLEMENTARY BUS TO SUPPLEMENTAL BUS.
2. SUPPLEMENTARY BUS TO PRIMARY PERIPHERAL INTERIOR GROUND RING.



9 BONDING CABLE ENTRANCE PLATE TO PRIMARY PERIPHERAL INTERIOR GROUND RING
E-304 N.T.S.



10 BONDING METAL DOOR FRAME AND DOOR TO INTERIOR GROUNDING RING
E-304 N.T.S.



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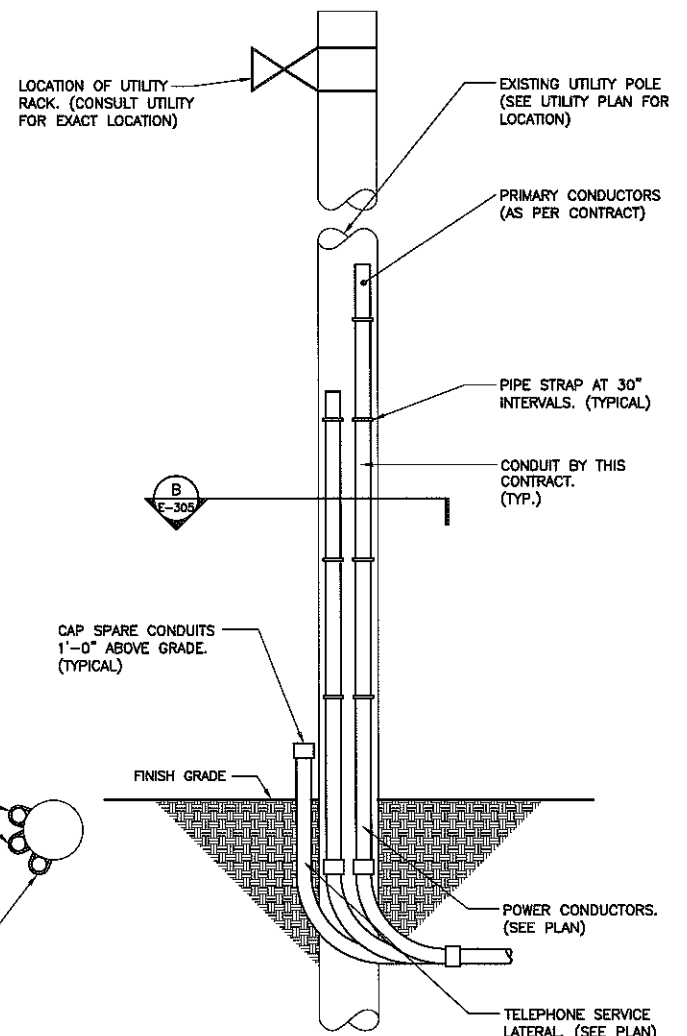
Sheet Title:

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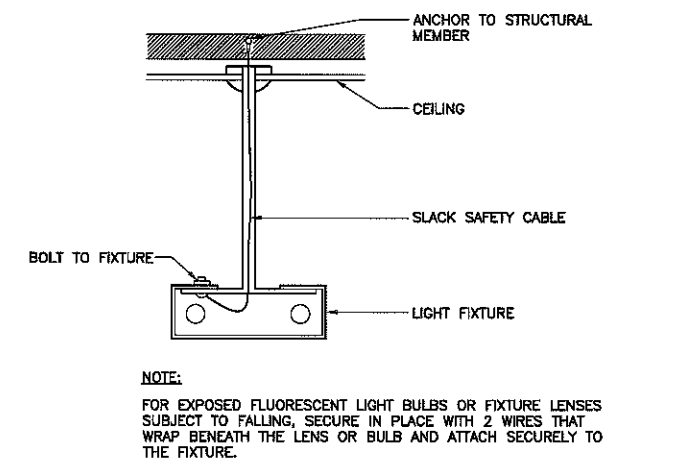
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SERVICE RISER NOTES

1. THE LOCATION SHOWN FOR THE CONNECTION TO UTILITIES, AND INCOMING POWER AND TELEPHONE SERVICES IS FOR CONCEPT ONLY. THE CONTRACTOR SHALL COORDINATE THE ACTUAL LOCATION WITH LOCAL TELEPHONE COMPANY, THE OWNER AND LOCAL ELECTRIC UTILITY COMPANY.
2. CONTRACTOR IS RESPONSIBLE FOR MAKING ARRANGEMENTS WITH LOCAL UTILITY COMPANY AND LOCAL TELEPHONE COMPANY FOR A TIMELY INSTALLATION OF THE INCOMING POWER AND TELEPHONE SERVICE. CONTRACTOR WILL OBTAIN AN ELECTRIC SERVICE ORDER (ESO) FOR THE SITE FROM LOCAL UTILITY COMPANY AND LOCAL TELEPHONE COMPANY PRIOR TO CONSTRUCTION.
3. THE INCOMING ELECTRIC SERVICE WILL BE INSPECTED BY THE AUTHORITY HAVING JURISDICTION AND A CERTIFICATE OF SUCH INSPECTION SHALL BE FURNISHED TO THE OWNER AND A COPY FORWARDED TO LOCAL UTILITY COMPANY.
4. FOR INCOMING UNDERGROUND TELEPHONE SERVICE, THE CONTRACTOR SHALL INSTALL CONDUIT AND PULL WIRES BETWEEN THE RISER POLE AND THE TELCO SERVICE CABINET. THE CONTRACTOR SHALL PROVIDE PRE-CAST PULL-BOXES INCLUSIVE OF THE PRE-CAST COVERS OF THE TYPE AND AS REQUIRED BY LOCAL TELEPHONE COMPANY THE MAXIMUM DISTANCE BETWEEN PULL-BOXES CAN NOT EXCEED 750' (CONTRACTOR TO CONFIRM WITH LOCAL UTILITY). AT THE PROPOSED RISER POLE EXTEND THE TELEPHONE CONDUIT UP THE POLE APPROXIMATELY 8' AND SEAL.
5. THE CONTRACTOR SHALL COORDINATE THE METER REQUIREMENTS WITH LOCAL UTILITY COMPANY.
6. THE INCOMING ELECTRICAL SERVICE SHALL BE INSTALLED IN CONFORMANCE WITH LOCAL UTILITY COMPANY STANDARDS (LATEST EDITION).
7. THIS SITE MAY CONTAIN CRITICAL UNDERGROUND ELECTRIC AND TELEPHONE SERVICES IN THE VICINITY OF THE NEW UNDERGROUND SERVICE AND THE EQUIPMENT SUPPORTS. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO AVOID DISRUPTION OF THESE EXISTING FACILITIES. THE CONTRACTOR SHALL ALSO CONTACT LOCAL UTILITY COMPANY AND LOCAL TELEPHONE COMPANY AND ALL THE APPROPRIATE AGENCIES PRIOR TO EXCAVATION AT THIS SITE.

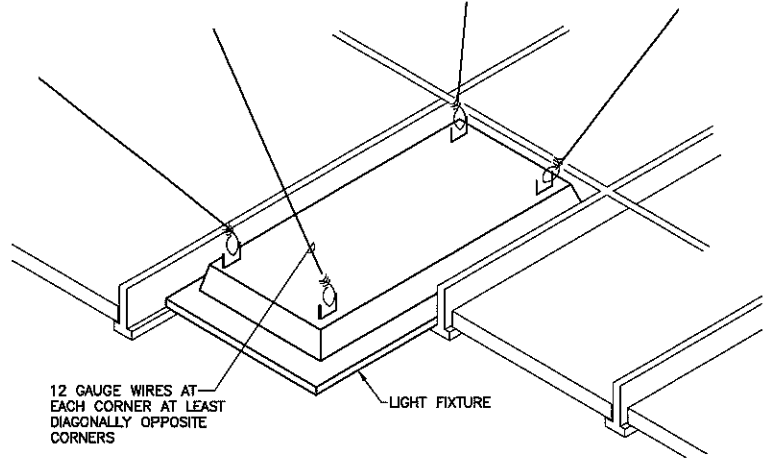


2 INCOMING SERVICE POLE RISER
 E-305 NOT TO SCALE

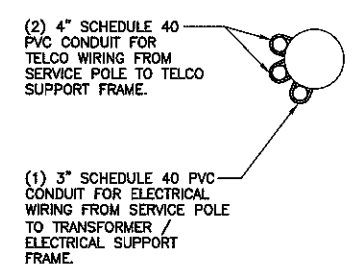


NOTE:
 FOR EXPOSED FLUORESCENT LIGHT BULBS OR FIXTURE LENSES SUBJECT TO FALLING, SECURE IN PLACE WITH 2 WIRES THAT WRAP BENEATH THE LENS OR BULB AND ATTACH SECURELY TO THE FIXTURE.

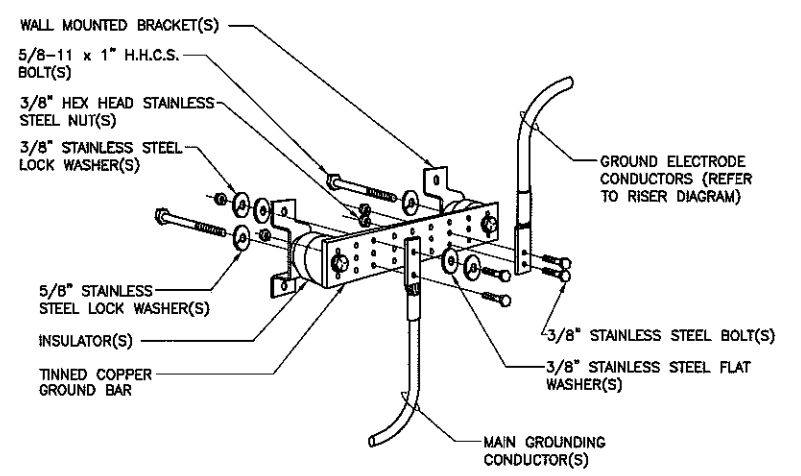
SAFETY WIRE FOR PENDANT LIGHT FIXTURE



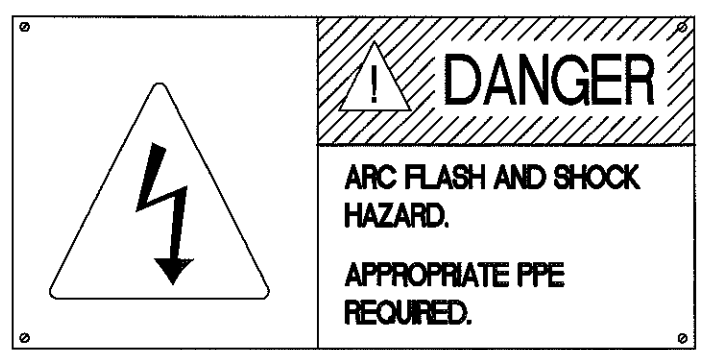
1 SEISMIC SAFETY WIRES FOR LIGHT FIXTURES
 E-305 NOT TO SCALE



B DETAIL
 E-305 NOT TO SCALE



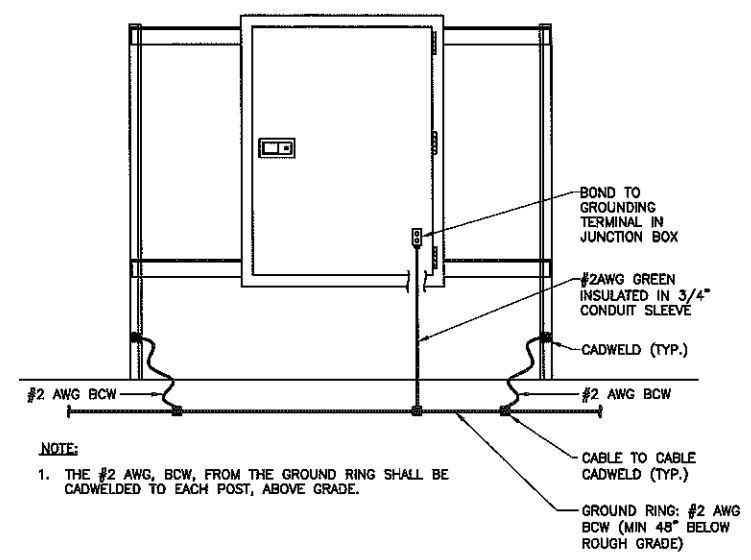
3 TYPICAL GROUND BAR DETAIL
 E-305 NOT TO SCALE



NOTES

1. REFER TO SPECIFICATIONS FOR FOR ADDITIONAL NAMEPLATE REQUIREMENTS.
2. PROVIDE WARNING LABEL ON ALL SWITCHBOARDS, DISTRIBUTION PANELS, PANELBOARDS IN ACCORDANCE WITH NEC 110.16.

4 DETAIL OF TYPICAL FLASH PROTECTION WARNING SIGN
 E-305 NOT TO SCALE



NOTE:

1. THE #2 AWG, BCW, FROM THE GROUND RING SHALL BE CADWELDED TO EACH POST, ABOVE GRADE.

5 UTILITY FRAME GROUNDING DETAIL
 E-305 NOT TO SCALE

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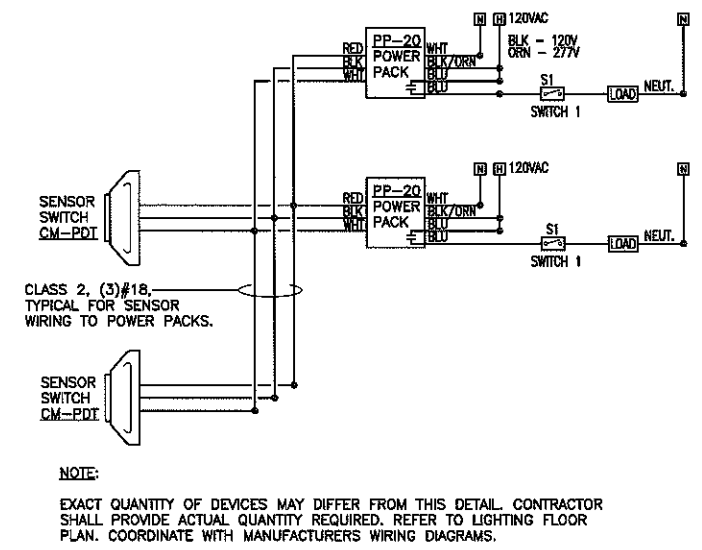
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Reviewed by: CKD
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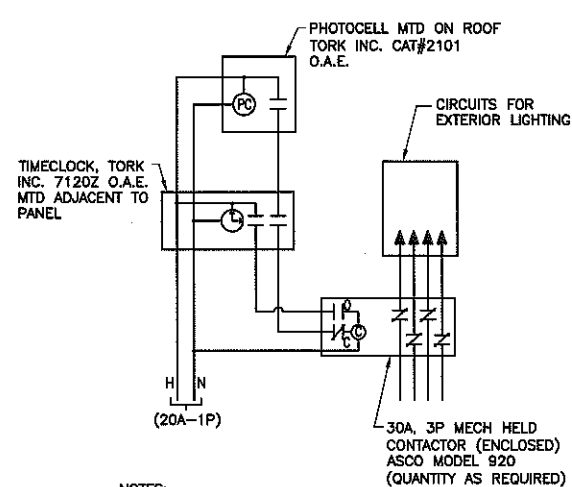
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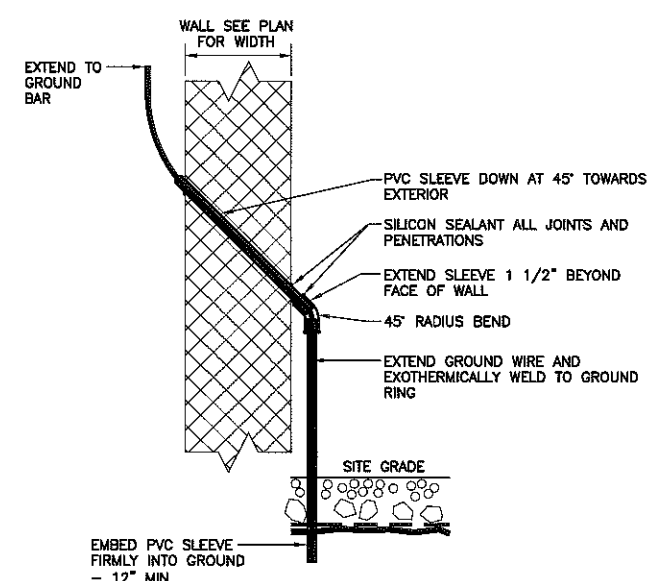
E-306



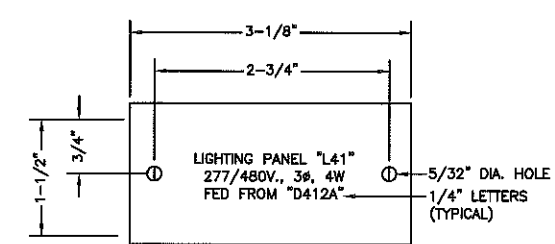
4 TYPICAL LIGHTING CONTROL SCHEMATIC
E-306 NOT TO SCALE



3 EXTERIOR SITE LIGHTING CONTROL SCHEMATIC
E-306 NOT TO SCALE

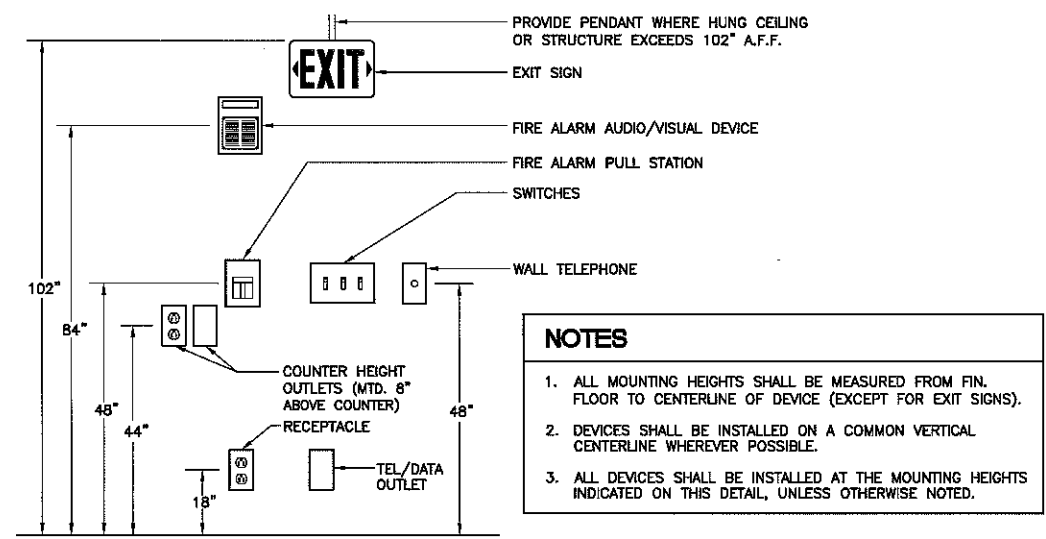


2 SLEEVE DETAIL
E-306 NOT TO SCALE

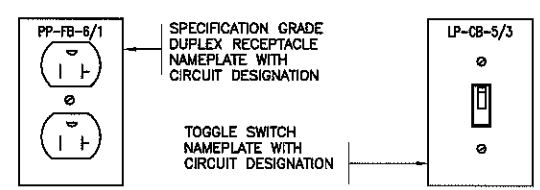


- NOTES**
- REFER TO SPECIFICATIONS FOR ADDITIONAL NAMEPLATE REQUIREMENTS.
 - NAMEPLATE TO BE 1/16" WHITE PLASTIC WITH BLACK CENTER LAMINATION. FACE TO BE WHITE, ENGRAVED LETTERS TO BE BLACK.
 - SECURE NAMEPLATE TO SURFACES WITH (2) FLAT HEAD BRASS SCREWS.

1 DETAIL OF TYPICAL NAMEPLATE
E-306 NOT TO SCALE

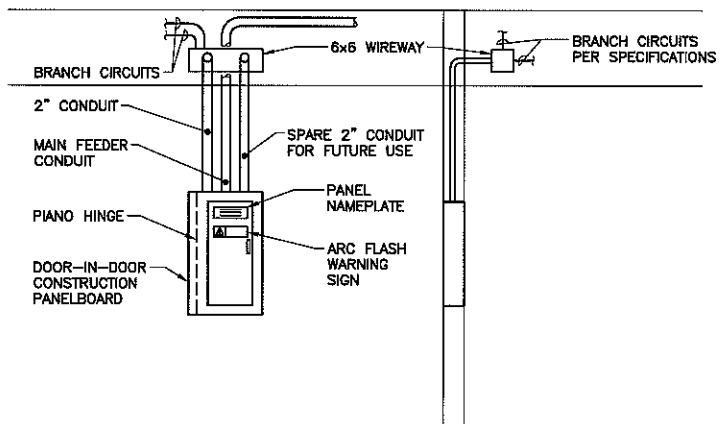


7 TYPICAL DEVICE MOUNTING HEIGHTS DETAIL
E-306 NOT TO SCALE



6 TYPICAL ELECTRICAL DEVICE ENGRAVING DETAIL
E-306 NOT TO SCALE

- ALL COVER PLATES SHALL BE BRUSHED STAINLESS STEEL.
- DEVICES ON SHALL BE WHITE WITH COVER PLATE AND BLACK CIRCUIT IDENTIFICATION.
- APPLIES TO ALL DEVICES IN ALL AREAS
- ALL LABELING SHALL BE ENGRAVED.



5 TYPICAL PANELBOARD DETAIL
E-306 NOT TO SCALE

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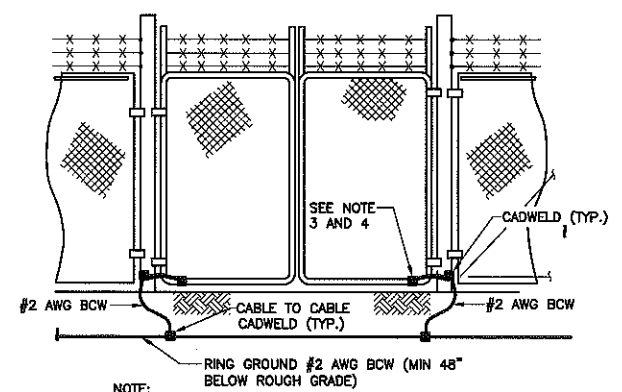
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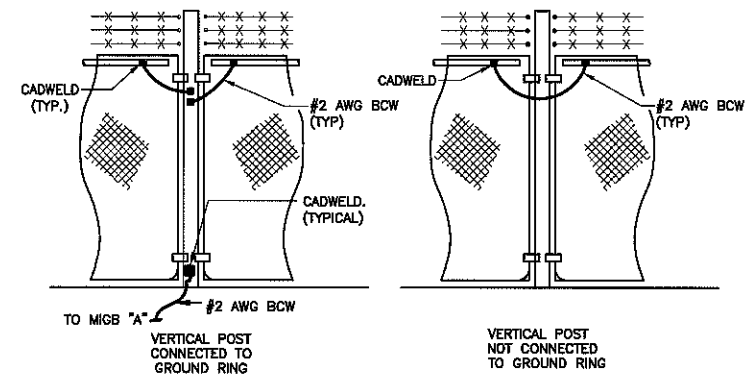
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E-307



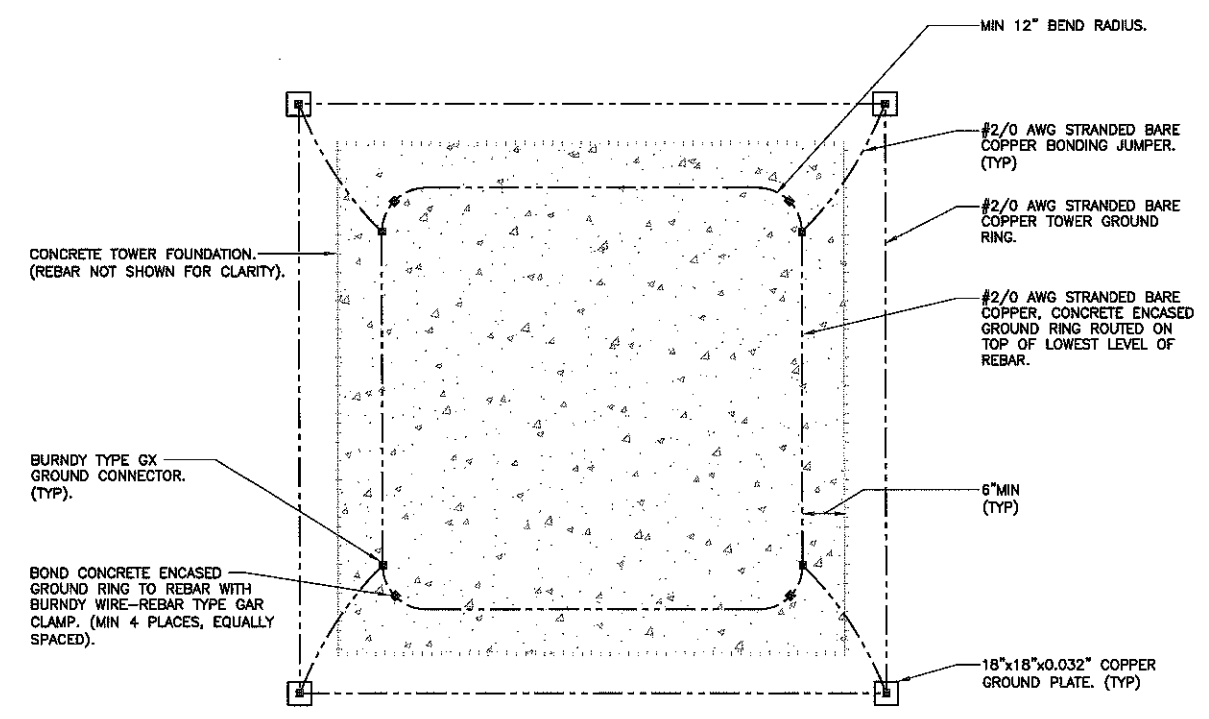
- NOTES**
1. THE #2 AWG, BCW, FROM THE RING GROUND SHALL BE CADWELDED TO THE POST, ABOVE GRADE.
 2. BOND EACH HORIZONTAL POLE/BRACE TO EACH OTHER AND TO EACH VERTICAL POLE BONDED TO THE EXTERIOR GROUND RING.
 3. GATE JUMPER SHALL BE #4/0 AWG WELDING CABLE OR FLEXIBLE COPPER BRAID BURNDY TYPE B WITH SLEEVES ON EACH END DESIGNED FOR EXOTHERMIC WELDING.
 4. GATE JUMPER SHALL BE INSTALLED SO THAT IT WILL NOT BE SUBJECTED TO DAMAGING STRAIN WHEN GATE IS FULLY OPEN IN EITHER DIRECTION.

1 FENCE GATE GROUNDING
 E-307 NOT TO SCALE

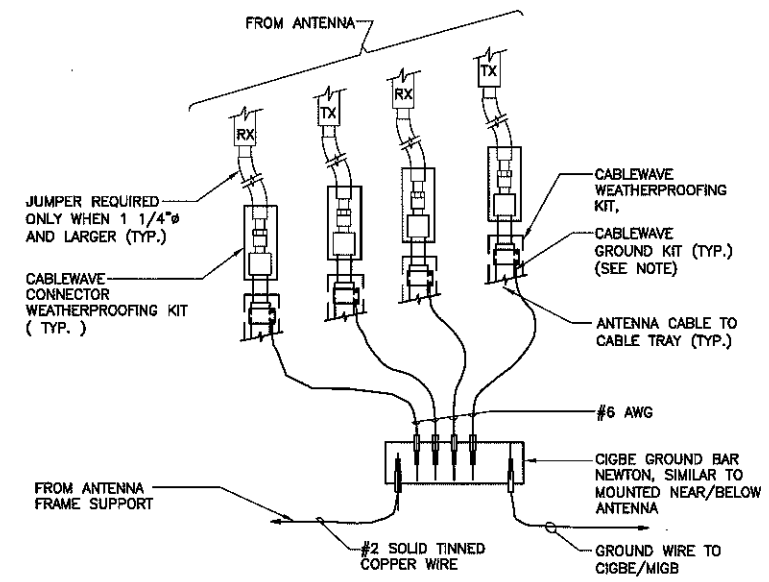


- NOTES**
1. VERTICAL POSTS SHALL BE BONDED TO THE RING AT EACH CORNER AND AT EACH GATE POST. AS A MINIMUM ONE VERTICAL POST SHALL BE BONDED TO THE GROUND RING IN EVERY 100 FOOT STRAIGHT RUN OF FENCE.
 2. HORIZONTAL POLES SHALL BE BONDED TO EACH OTHER.
 3. BOND EACH HORIZONTAL POLE / BRACE TO EACH OTHER AND TO EACH VERTICAL POST THAT IS BONDED TO THE EXTERIOR GROUND RING.

3 GROUND-STD. DETAIL FENCE GROUNDING
 E-307 NOT TO SCALE



2 CONCRETE ENCASED GROUND RING PLAN VIEW
 E-307 NOT TO SCALE

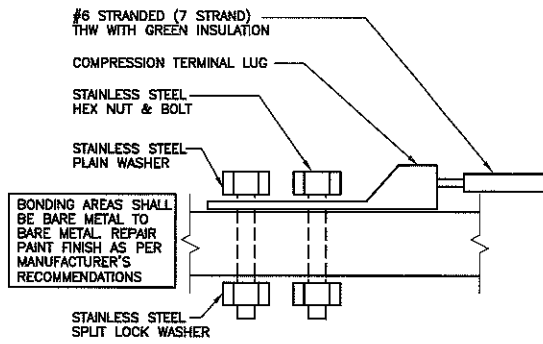


- NOTE**
1. DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO CIGBE

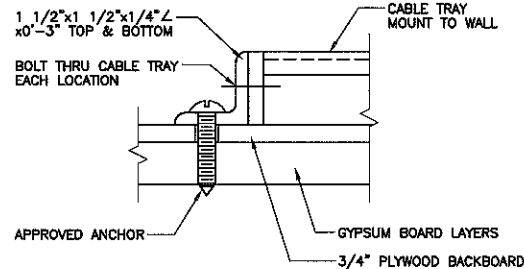
4 CONNECTION OF GROUND WIRES TO GROUND BAR
 E-307 NOT TO SCALE

DRAWING NOTES

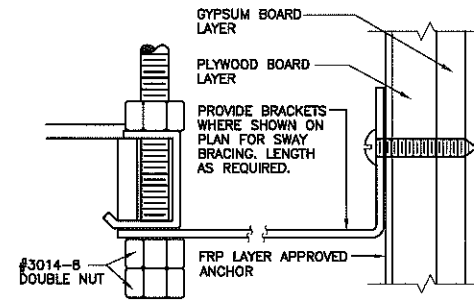
1. CABLE TRAY SHALL BE 18" WIDE, SOLID SIDE BAR, GOLD ANODIZED FINISH, AS MANUFACTURED BY NEWTON INSTRUMENT COMPANY, INC. (919-575-6426). REFER TO DETAIL.
2. REFER TO DETAILS FOR APPLICABLE CABLE TRAY INSTALLATION REQUIREMENTS.
3. CABLE TRAY SHALL BE SUPPORTED BY "UNISTRUT," ATTACHED TO SUPPORTING CHANNEL VIA THREADED ROD. PROVIDE ALL SUPPORTS, UNISTRUT, HANGERS, ETC. AS REQUIRED FOR COMPLETE INSTALLATION.
4. THREADED ROD SUPPORTS FOR THE CABLE TRAY SHALL BE SPACED NO MORE THAN 48" O.C. ON EACH SIDE. INSTALL BLOCKING BETWEEN JOISTS AS REQUIRED TO SUPPORT STRUT HANGER BRACKETS.
5. CABLE TRAY SHALL BE 6" AWAY FROM FINISHED WALLS.
6. BOTTOM OF CABLE TRAY SHALL BE 8'-0" A.F.F.
7. ADJACENT CABLE TRAYS SHALL BE GROUNDED TOGETHER. REFER TO ELECTRICAL PLAN(S) FOR INTERIOR GROUNDING RING BOND TO CABLE TRAY.
8. ALL GROUND CONNECTIONS, CABLE TRAYS SHALL BE COATED WITH AN ANTI-OXIDANT LUBRICANT AFTER BURNISHING AND BEFORE TERMINAL CONNECTIONS ARE MADE.
9. CONTRACTOR SHALL FILE SMOOTH EDGES OF CABLE TRAY THAT HAVE BEEN CUT TO LENGTH IN THE FIELD. PAINT MODIFIED CABLE TRAY AS PER MANUFACTURER'S RECOMMENDATIONS.
10. CONTRACTOR TO FIELD VERIFY ALL DIMENSIONS.



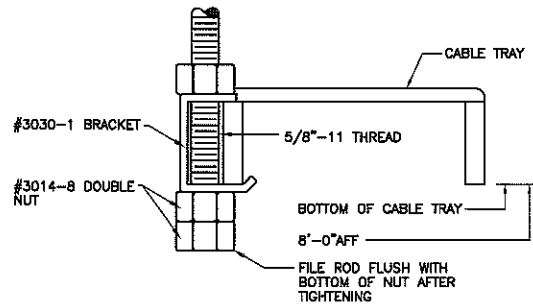
1 LUG CONNECTION ON CABLE TRAY
E-308 N.T.S.



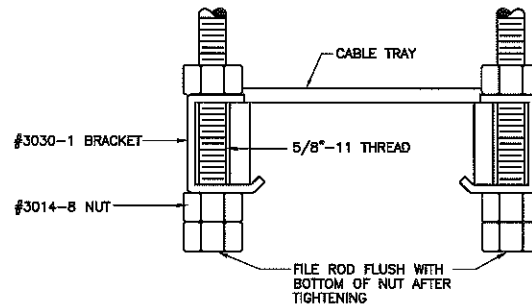
2 WALL TRAY CONNECTION
E-308 N.T.S.



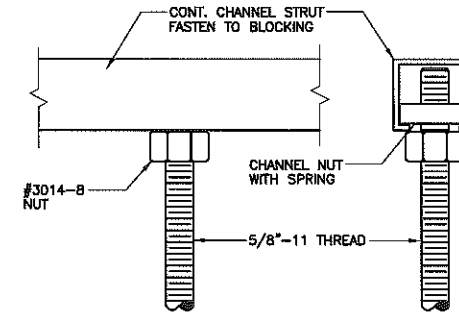
3 CABLE TRAY TO WALL SWAY BRACE
E-308 N.T.S.



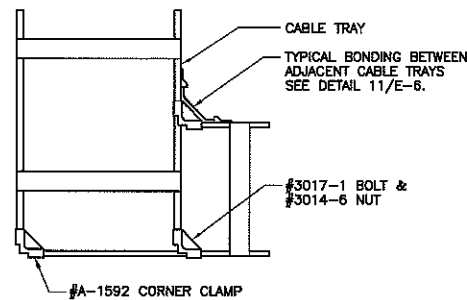
4 SLOTTED TYPE CABLE TRAY HANGER BRACKET (ONE SIDE)
E-308 N.T.S.



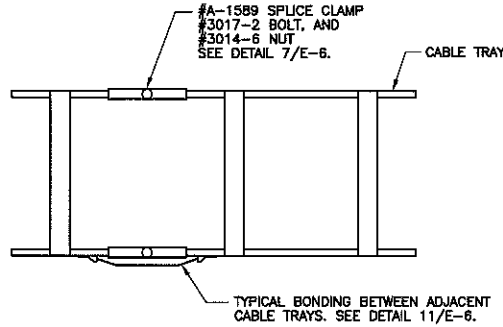
5 SLOTTED TYPE CABLE TRAY HANGER BRACKET (BOTH SIDES)
E-308 N.T.S.



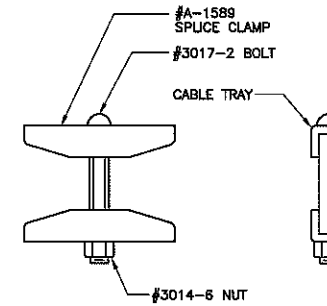
6 STRUT HANGER BRACKET
E-308 N.T.S.



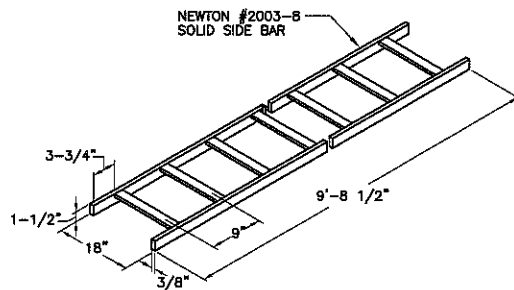
7 MAKING 90° TURN AND JUNCTIONING CABLE TRAY
E-308 N.T.S.



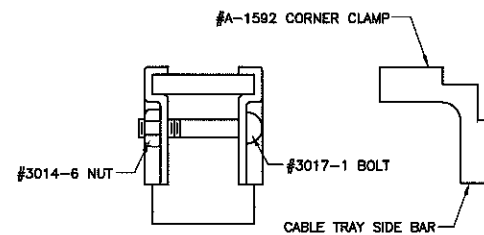
8 CABLE TRAY JUNCTION
E-308 N.T.S.



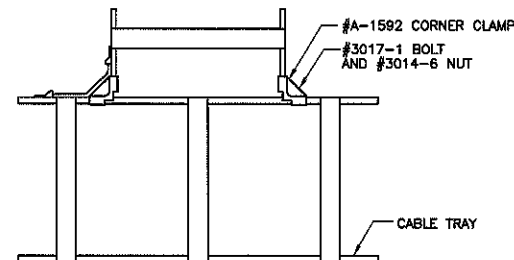
9 JUNCTIONING OF SIDE BARS
E-308 N.T.S.



10 TYPICAL CABLE TRAY SECTION
E-308 N.T.S.



11 JUNCTIONING OF RIGHT ANGLE SIDE BARS
E-308 N.T.S.



12 CONNECTING TWO CABLE TRAYS BY 'T'-JUNCTION
E-308 N.T.S.



Project
**CLOCK TOWER
AMERICAN SCHOOL FOR
THE DEAF**
139 North Main Street
West Hartford, Connecticut
Prepared For
VERIZON WIRELESS

Project No: 2013.02

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Do not scale dimensions from drawings.
Site verify all dimensions prior to construction.
Report all discrepancies to Architect immediately.
This drawing is to be read in conjunction with all relevant
documents and drawings.

| Rev. | Description | Date |
|------|---|----------|
| 0 | D&M Submission (Net for Construction) | 07.29.13 |
| 1 | D&M Submission (Net for Construction) | 08.09.13 |
| 2 | D&M Submission (Client Review) | 10.08.13 |
| 3 | D&M Submission (Final/Net for Construction) | 10.21.13 |

Drawn by: TJB
Drawn Date: 07.29.13
Reviewed by: OKD
Project No: 2013.02 (CENTEK Proj No. 12027.00)
Scale: AS NOTED

Sheet Title:

**CABLE TRAY
INSTALLATION
DETAILS**

Original drawing is D. Do not scale contents of this drawing.
Sheet Number: Revision:

E-308