



General Project Notes

1) THE CONTRACTOR SHALL REMOVE FROM THE SITE AND LEGALLY DISPOSE OF ALL ITEMS DEMOLISHED AS PART OF THIS PROJECT. UNLESS OTHERWISE INDICATED.

2) THE CONTRACTOR SHALL FIELD VERIFY THE FULL EXTENT OF DEMOLITION WORK REQUIRED PRIOR TO BIDS.

3) DEMOLISH ALL EXISTING DATA, VOICE AND TV EQUIPMENT NOT SHOWN TO BE REUSED WITH ALL RELATED CABLING, CONDUITS, HÁNGERS, RACKS, PATCH PANELS, WIRING BLOCKS, WIRE MANAGEMENT, SURFACE RACEWAY, OUTLETS, ELECTRICAL SERVICES AND APPURTENANCES ABOVE AND BELOW CEILINGS, WHETHER OR NOT INDICATED ON THE PLANS. PATCH, PAINT AND OTHERWISE RESTORE AND REFINISH TO MATCH ADJACENT SURFACES ALL WALL, CEILING AND FLOOR FINISHES WHERE EXISTING SYSTEMS COMPONENTS ARE REMOVED. TURN ALL RACKS, WIRING BLOCKS, PATCH CORDS, LAN, PHONE, AND TV EQUIPMENT, WIRE MANAGERS AND ALL OTHER EXISTING MATERIALS THE OWNER ELECTS TO RETAIN OVER TO THE OWNERS PROJECT MANAGER. COORDINATE WITH OWNER'S PROJECT MANAGER PRIOR TO REMOVING ANY EXISTING MATERIALS FROM THE SITE.

#### GENERAL PROJECT EXECUTION NOTES:

PROJECT MANAGER.

1) MAINTAIN ALL EXISTING SYSTEMS IN FULL OPERATION UNTIL NEW SYSTEMS ARE IN PLACE AND FULLY OPERATIONAL UNLESS TIME LIMITED SHUTDOWNS ARE APPROVED BY THE OWNER'S PROJECT MANAGER IN WRITING. APPROVAL FOR SHUTDOWNS MUST BE REQUESTED NOT LESS THAN 5 DAYS PRIOR TO THE SHUTDOWN. PROVIDE ALL TEMPORARY MEASURES REQUIRED TO MAINTAIN EXISTING SYSTEMS FULLY OPERATIONAL UNTIL CUTOVER TO NEW SYSTEM IS COMPLETE AT NO ADDITIONAL COST TO THE OWNER. CUTOVER TO NEW SYSTEMS SHALL OCCUR AT A TIME PRE-APPROVED BY THE OWNER'S PROJECT MANAGER AT NIGHT OR ON A WEEKEND WHEN THE LIBRARY IS NOT IN OPERATION.

2) THE CONTRACTOR SHALL PROTECT ALL BUILDING COMPONENTS, EQUIPMENT, FURNISHINGS AND OTHER PROPERTY OF THE OWNER FROM PHYSICAL DAMAGE AND CONTACT WITH DUST AND DEBRIS GENERATED BY WORK UNDER THE PROJECT AT ALL TIMES DURING CONSTRUCTION AND UNTIL FINAL COMPLETION OF THE PROJECT AND ACCEPTANCE BY THE OWNER. ALL SYSTEM COMPONENTS THAT, IN THE SOLE JUDGMENT OF THE OWNER'S PROJECT MANAGER, ARE EXPOSED TO EXCESSIVE ACCUMULATION OF CONSTRUCTION DUST/DEBRIS SHALL BE REMOVED AND REPLACED WITH NEW AT NO ADDITIONAL COST TO THE OWNER.

3) THE CONTRACTOR SHALL BE RESPONSIBLE FOR DAMAGES TO BUILDING COMPONENTS, EQUIPMENT, FURNISHINGS, CAUSED BY THE CONTRACTOR OR HIS SUBCONTRACTORS. THE CONTRACTOR SHALL, AS DIRECTED BY THE OWNER'S PROJECT MANAGER, REPAIR OR REPLACE WITH NEW ANY DAMAGED ITEM AT THE CONTRACTOR'S EXPENSE. ANY ITEM THAT THE OWNER'S PROJECT MANAGER ALLOWS TO BE REPAIRED SHALL BE RESTORED TO THE CONDITION EXISTING PRIOR TO THE DAMAGE OCCURRING, OR BETTER.

4) THE CONTRACTOR SHALL AND IDENTIFY AND RECONNECT/RESTORE ALL EXISTING MISCELLANEOUS VOICE, DATA AND ITV SERVICES THROUGH THE NEW STRUCTURED CABLING SYSTEM, WHETHER THOSE SERVICES ARE SPECIFICALLY IDENTIFIED OR NOT.

### COMMUNICATIONS DEMOLITION GENERAL NOTES:

- 1. DEMOLISH EXISTING COMMUNICATION OUTLET. TYPICAL FOR ALL EXISTING OUTLETS BUILDING-WIDE, CONTRACTOR FIELD VERIFY QUANTITY AND LOCATION. PROVIDE DEMOLITION OF EXISTING SURFACE RACEWAY/BOX.
- 2. DEMOLISH EXISTING TV OUTLET. TYPICAL FOR ALL EXISTING OUTLETS BUILDING-WIDE, CONTRACTOR FIELD VERIFY QUANTITY AND LOCATION. PROVIDE DEMOLITION OF EXISTING SURFACE RACEWAY/BOX.
- 3. DEMOLISH EXISTING CER WITH ALL COMPONENTS, TURN ALL EQUIPMENT OVER TO THE OWNERS
- 4. TELEPHONE SYSTEM PROVIDER WILL RELOCATE THE EXISTING TELEPHONE SYSTEM EQUIPMENT TO THE NEW CER OR REPLACE WITH NEW UNDER SEPARATE CONTRACT.
- 5. DEMOLISH EXISTING VOICE BACKBOARD WITH ALL COMPONENTS.
- 6. EXISTING DEMARC COPPER TELEPHONE SERVICE ENTRANCE BACKBOARD, DEMOLISH ALL COMPONENTS AFTER NEW COPPER ENTRANCE IS INSTALLED AND FULLY CUTOVER.



<u>Phasing Notes:</u>
1) see Phasing Notes.

**GENERAL DEMOLITION NOTES:** 

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PROJECT NO: FILE NO: XXXXX DATE: 06.01.2011 REVISION:

**CONSTRUCTION DETAIL COMMUNICATIONS HANDHOLE NOTES:** 1) HANDHOLE SHALL BE NEWBASIS FCB243624C02 WITH PCC243600A04 COVER (LOGO=TELCOM). INSTALL IN ACCORDANCE WITH THE MANUFACTURER'S PRINTED INSTRUCTIONS AND THESE REQUIREMENTS. 2) TERMINATE CONDUITS ENTERING HANDHOLE WITH END BELL (CARLON E997). CONSTRUCT CONDUIT RISE TO ENTER BOX FROM SIDE WITH 22-1/2° SWEEP ELBOWS. SEE "TYPICAL CONDUIT ENTRY DETAIL - COMMUNICATIONS HANDHOLE". LARGE COMMUNICATIONS HANDHOLE TYPICAL DETAILS

**FIBERGLASS** 

REINFORCED

CONCRETE BODY -

POLYMER

<u>VAP\_SUPPORT\_BOX\_</u>2\_GANG\_BOX\_4"x4"x2-1/8" WITH

SINGLE GANG PLASTER RING, FLUSH MOUNT IN WALL

ADJACENT TO 'D2' OUTLET AT HEIGHT INDICATED ON

PLANS (VERIFY WITH ARCHITECT PRIOR TO MOUNTING)

PROVIDE SINGLE GANG STAINLESS STEEL BLANK PLATE

FOR ANY LOCATION WHERE A 'WAP' IS NOT INSTALLED -

OFOI WIRELESS

OBSTRUCTION

-3000 PSI

AROUND,

SLOPE 1/2

TO GRADE

-COMPACTED

- GRAVEL OR CRUSHED

ROCK, EXTEND 4" BEYOND

HANDHOLE ALL AROUND

CONCRETE ALL

—★LOWER LOCATION: ROUGH—IN WITH

4"x4"x2-1/8" WITH SINGLE GANG

REQUIRED TO RECESS BOX AND

PLASTER RING, AT FURRED EXISTING

WALLS SAW CUT EXISTING WALL AS

- TWO BOLT POLYMER CONCRETE COVER,

HEAVY TRAFFIC DESIGN RATED FOR

20,800 LBS. WHEEL LOAD ON 10" x

20" PLATE (ASTM C-857 CODE A-16)

GRADE

RECESSED 2 GANG BOX

FLUSH MOUNT FACEPLATE.

-FINISHED FLOOR

ACCESS POINT -

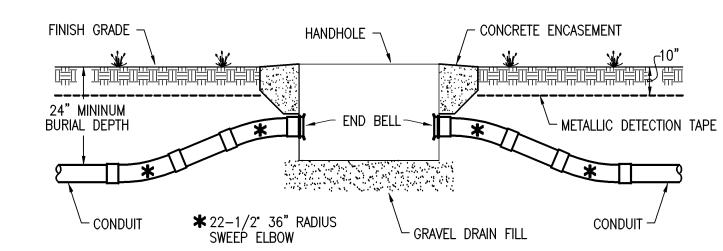
'D2' COMMUNICATIONS

WALL MOUNT WIRELESS

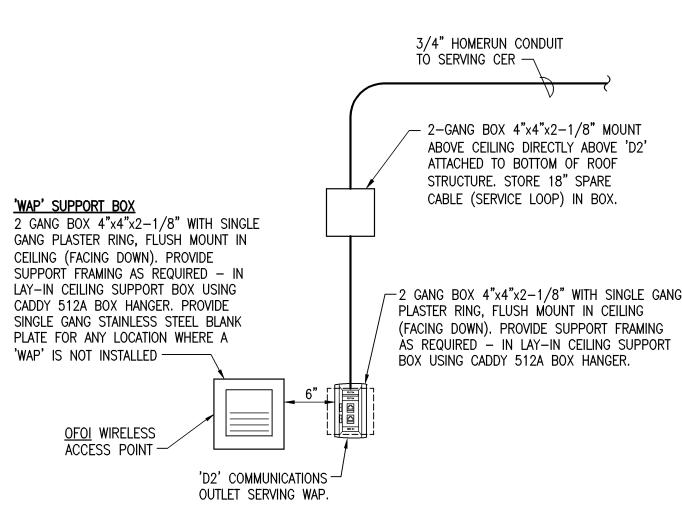
**ACCESS POINT (WAP) MOUNTING DETAIL** 

OUTLET SERVING WAP

I.D. (TELCOM)



TYPICAL HANDHOLE CONDUIT ENTRY DETAIL NOT TO SCALE



### LAY-IN CEILING MOUNT WIRELESS **ACCESS POINT (WAP) MOUNTING DETAIL**

#### GENERAL ABOVEGROUND CONDUIT NOTES:

1) CONDUIT INSTALLER PROVIDE PULL STRINGS IN ALL HORIZONTAL CABLE CONDUITS AND PULL TAPE IN ALL BACKBONE CONDUITS FOR USE BY CABLING INSTALLER.

- 2) LOCATION AND ROUTING OF ABOVEGROUND CONDUITS IS APPROXIMATE AND DEPICTS DESIGN INTENT ONLY. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR DETERMINING FINAL CONDUIT ROUTING IN THE FIELD. THE CONTRACTOR SHALL COORDINATE THE FINAL ROUTING OF CONDUITS TO AVOID CONFLICTS WITH OTHER TRADES, WHILE MINIMIZING CHANGES IN DIRECTION AND OVERALL CONDUIT LENGTH. ALL CONDUIT SHALL BE RUN OVERHEAD EXCEPT WHERE LIMITED RUNS OF UNDER FLOOR (FIRST FLOOR) CONDUIT ARE SPECIFICALLY INDICATED SERVING FLOOR BOXES AND <u>FIXED CASEWORK — NO EXCEPTIONS</u>. OBTAIN APPROVAL OF ENGINEER PRIOR TO ANY CHANGES IN ROUTING.
- 3) PROVIDE HOMERUN CONDUITS RUN CONTINUOUSLY CONCEALED IN WALLS AND OVERHEAD FROM ALL COS, TV OUTLETS, IP SECURITY CAMERAS, AND INTERCOM/PA SPEAKERS TO SERVING CER. HOMERUN CONDUITS SHALL BE 3/4" TRADE SIZE. CONDUIT INSTALLER SHALL PROVIDE PULL STRINGS IN ALL CONDUITS CONTINUOUS FROM END TO END. PROVIDE INDIVIDUAL HOMERUN CONDUIT FROM EACH CO, TV OUTLET, AND CAMERA. CONDUITS FOR INTERCOM/PA SPEAKERS MAY SERVE UP TO SIX SPEAKERS - SEE "INTERCOM/PA GENERAL ABOVE GROUND CONDUIT NOTES."
- 4) CONDUITS RUN INDOORS SHALL BE RUN CONCEALED OVERHEAD ABOVE CEILINGS UNLESS LOCATED IN SPACES WITHOUT CEILINGS, IN AN UNFINISHED SPACE SUCH AS EQUIPMENT ROOMS OR IN SPACES SPECIFICALLY INDICATED TO HAVE EXPOSED CONDUIT INSTALLATIONS. INDOOR CONDUIT SHALL BE EMT WITH STEEL FITTINGS EXCEPT WHERE RIGID THREADED CONDUIT IS INDICATED. DIE CAST EMT FITTINGS ARE NOT ALLOWABLE. FITTINGS IN EXPOSED INDOOR LOCATIONS SHALL BE STEEL COMPRESSION TYPE. FITTINGS IN CONCEALED INDOOR LOCATIONS SHALL BE STEEL SET SCREW TYPE. SUPPORT EXPOSED CONDUIT AT A MINIMUM OF 4'-0" ON CENTER WITH 2-HOLE HEAVY DUTY GALVANIZED STEEL HARDWARE. DO NOT RUN CONDUITS BELOW SLAB EXCEPT AS SPECIFICALLY INDICATED.
- 5) SUPPORT CONDUIT DIRECTLY FROM BUILDING STRUCTURE USING APPROVED HARDWARE. DO NOT SUPPORT CONDUIT FROM OTHER SYSTEMS COMPONENTS OR SUPPORTS. ROUTE ALL CONDUITS AS HIGH AS POSSIBLE. WHERE CONDUIT IS EXPOSED RUN HARD AGAINST WALL OR UNDERSIDE OF ROOF/FLOOR DECK. RUN ALL CONDUITS PARALLEL/PERPENDICULAR AND PLUMB WITH BUILDING LINES.
- 6) CONDUIT BODIES SUCH AS <u>'LB' FITTINGS ARE NOT ALLOWABLE</u>.

3/4" HOMERUN CONDUIT

2-GANG BOX 4"x4"x2-1/8" MOUNT

ABOVE CEILING. STORE 18" SPARE

∠ 2 GANG BOX 4"x4"x2−1/8" WITH SINGLE

GANG PLASTER RING, FLUSH MOUNT IN WALL

WITH ARCHITECT PRIOR TO MOUNTING), AT

FURRED EXISTING WALLS SAW CUT EXISTING

WALL AS REQUIRED TO RECESS BOX AND

FLUSH MOUNT FACEPLATE.

AT HEIGHT INDICATED ON PLANS (VERIFY

CABLE (SERVICE LOOP) IN BOX.

TO SERVING CER —

─ 3/4" CONDUIT CONCEALED

IN WALL OR NEW FURRING

- 7) PROVIDE PULLBOXES OF THE SAME TYPE AND SIZE AS THOSE INDICATED ON DRAWINGS FOR EACH RUN OF CONDUIT AT EVERY 100 FEET ON CENTER AND AT EACH END OF CONDUIT RUNS CONTAINING A TOTAL OF TWO 90 deg BENDS OR A COMBINATION OF LESSER BENDS TOTALING 180 deg (MINIMUM REQUIREMENTS - PROVIDE WHETHER SPECIFICALLY INDICATED OR NOT). CONDUIT RUNS CONTAINING MORE THAN TWO 90 deg BENDS WITHOUT A PULLBOX ARE NOT ALLOWABLE. FACTORY CONDUIT ELBOWS AND ALL OTHER BENDS SHALL HAVE A MINIMUM RADIUS OF SIX TIMES THE INTERNAL CONDUIT DIAMETER. CONDUIT OFFSETS AND PULLBOXES REQUIRED TO SUIT FIELD CONDITIONS AND TO CONFORM TO THESE REQUIREMENTS SHALL BE PROVIDED AT NO ADDITIONAL COST TO THE OWNER.
- 8) PULLBOXES FOR BACKBONE CONDUITS SHALL BE AS INDICATED. PULL BOXES FOR CO AND TV OUTLET HOMERUN CONDUITS SHALL BE 4" WIDE x 4" LONG x 2-1/8" DEEP NEMA 1 GALVANIZED STEEL WITH SCREW COVER. WHERE HOMERUN CONDUITS ARE TIGHTLY RACKED WITH UNIFORM SPACING, WIDER PULL BOXES MAY BE PROVIDED TO SERVE MULTIPLE CONDUITS. TERMINATE CONDUITS AT OPPOSITE ENDS OF PULLBOXES. DO NOT TERMINATE CONDUITS IN PULLBOXES AT RIGHT ANGLES TO EACH OTHER. HOMERUN CONDUITS SHALL NOT BE COMBINED INTO LARGER CONDUITS SERVING MULTIPLE OUTLETS. PROVIDE INDIVIDUAL HOMERUN CONDUITS FROM EACH CO AND TV OUTLET
- 9) DO NOT LOCATE PULLBOXES ABOVE INACCESSIBLE CEILINGS. ALWAYS LOCATE PULLBOXES ABOVE ACCESSIBLE LAY-IN CEILINGS.
- **10)** TERMINATE ALL CONDUIT ENDS WITH THREADED PLASTIC INSULATING BUSHINGS (PUSH-ON NOT ALLOWABLE). BUSHINGS MUST FIT TIGHTLY ON CONDUIT CONNECTOR THREADS. INSTALL ALL BUSHINGS PRIOR TO PULLING CABLE. INSTALL 3/8" MARKED PULL TAPE (CARLON TL382) ALONG WITH ALL BACKBONE CABLING. LEAVE 10'-0" OF PULL TAPE SLACK AT EACH END AND TAPE EXCESS INTO ROLL AND CONCEAL WITHIN PULLBOX AND SLOTTED WIREWAY LIMITS.
- 11) <u>IDENTIFICATION:</u> IDENTIFY ALL <u>INDOOR</u> COMMUNICATIONS CONDUIT AND PULLBOXES ABOVE LAY—IN CEILINGS WITH BLUE PAINT AT EVERY PULLBOX AND ON CONDUIT AT EACH COUPLER (PAINT ENTIRE COUPLER). <u>DO NOT PAINT CONDUIT COUPLERS IN CER/CCs OR SPACES SPECIFICALLY</u> INDICATED TO HAVE EXPOSED CONDUIT INSTALLATION. IDENTIFY ALL BACKBONE CONDUIT PULLBOXES. PAINT WITH 1" TALL LETTER STENCIL (COLOR BLUE) THE WORDS "TELCOM" ON EACH PULLBOX COVER. LETTERING SHALL BE LEVEL AND SQUARE AND AT CENTER OF PULLBOX COVER.

#### **GENERAL UNDERGROUND CONDUIT NOTES:**

- 1) LOCATION AND ROUTING OF NEW UNDERGROUND CONDUIT IS APPROXIMATE. THE CONTRACTOR SHALL COORDINATE THE FINAL LOCATION AND ROUTING OF CONDUIT TO AVOID CONFLICTS WITH BURIED UTILITIES AND OTHER OBSTRUCTIONS. SIGNIFICANT CHANGES TO CONDUIT ROUTING SHALL REQUIRE THE APPROVAL OF THE ENGINEER.
- 2) BURIED WARNING AND IDENTIFICATION TAPE: PROVIDE METALLIC DETECTION TAPE MANUFACTURED SPECIFICALLY FOR WARNING AND IDENTIFICATION OF BURIED UTILITIES. INSTALL TAPE DIRECTLY ABOVE EACH BURIED CONDUIT AT DEPTH OF 10 TO 12 INCHES BELOW GRADE FOR ENTIRE LENGTH OF CONDUIT. TAPE SHALL BE DETECTABLE BY ANY STANDARD NON-FERRIC METAL DETECTOR. PROVIDE TAPE IN ROLLS, 2 INCHES MINIMUM WIDTH, COLOR ORANGE, WITH WARNING AND IDENTIFICATION IMPRINTED IN BOLD BLACK LETTERS CONTINUOUSLY AND REPEATEDLY OVER ENTIRE TAPE LENGTH. WARNING AND IDENTIFICATION SHALL READ "CAUTION BURIED COMMUNICATIONS LINE BELOW". USE PERMANENT CODE AND LETTER COLORING UNAFFECTED BY MOISTURE AND OTHER SUBSTANCES CONTAINED IN BACKFILL MATERIAL.
- 3) THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATION OF ALL BURIED UTILITIES PRIOR TO COMMENCING ANY EXCAVATION REQUIRED FOR WORK UNDER THE PROJECT. THE CONTRACTOR SHALL REPAIR ANY DAMAGE TO UTILITIES THAT OCCURS AS A RESULT OF OPERATIONS PERFORMED UNDER THIS CONTRACT AT NO ADDITIONAL COST TO THE OWNER. REPAIRS SHALL BE MADE USING MATERIALS & METHODS TO MATCH EXISTING CONSTRUCTION AND SHALL BE APPROVED BY THE ENGINEER PRIOR TO RE-COVERING.
- 4) LOCATION OF HANDHOLES SHOWN IS INTENDED TO PLACE HANDHOLES IN ACCESSIBLE SODDED, PLANTED OR PAVED AREAS. COORDINATE LOCATIONS WITH SIDEWALKS, OTHER OUTSIDE STRUCTURES, AND LANDSCAPING TO AVOID CONFLICTS.
- 5) PROVIDE HANDHOLES IN UNDERGROUND CONDUIT AS INDICATED AND ADDITIONAL HANDHOLES AS REQUIRED DUE TO CHANGES IN CONDUIT DIRECTION. INSTALL A HANDHOLE IN EACH CONDUIT RUN OF LONGER THAN 500 FEET OR CONTAINING THE EQUIVALENT OF MORE THAN TWO 90° BENDS. INSTALL HANDHOLES AFTER BENDS AS INDICATED. DO NOT USE HANDHOLES TO MAKE A CHANGE IN DIRECTION.
- 6) RESTORE TO THEIR ORIGINAL ELEVATION AND CONDITION UNPAVED SURFACES DISTURBED DURING INSTALLATION OF UNDERGROUND CONDUIT PRESERVE AND REPLACE SOD OR TOPSOIL AFTER INSTALLATION IS COMPLETED. REPLACE SOD THAT IS DAMAGED WITH SOD OF TYPE AND QUALITY EQUAL TO THAT REMOVED.
- 7) WHERE TRENCHES OR OTHER EXCAVATIONS ARE MADE IN AREAS OF EXISTING ROADWAYS OR WALKWAYS WHERE SURFACE TREATMENT OF ANY KIND EXISTS, RESTORE SUCH SURFACE TREATMENT TO THE SAME THICKNESS AND IN THE SAME KIND AS PREVIOUSLY EXISTED (EXCEPT AS OTHERWISE INDICATED) AND TO MATCH AND TIE INTO THE ADJACENT AND SURROUNDING SURFACES.
- 8) THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE EXTENT OF EXISTING SURFACE TREATMENT SUCH AS CONCRETE OR ASPHALTIC PAVING. THE DRAWINGS SHALL NOT BE CONSTRUED AS PROVIDING ACCURATE REPRESENTATION OF THE TYPE, LOCATION OR EXTENT OF SURFACE
- 9) THE MINIMUM BEND RADIUS FOR ALL UNDERGROUND CONDUITS SHALL BE 10 TIMES THE INTERNAL CONDUIT DIAMETER.



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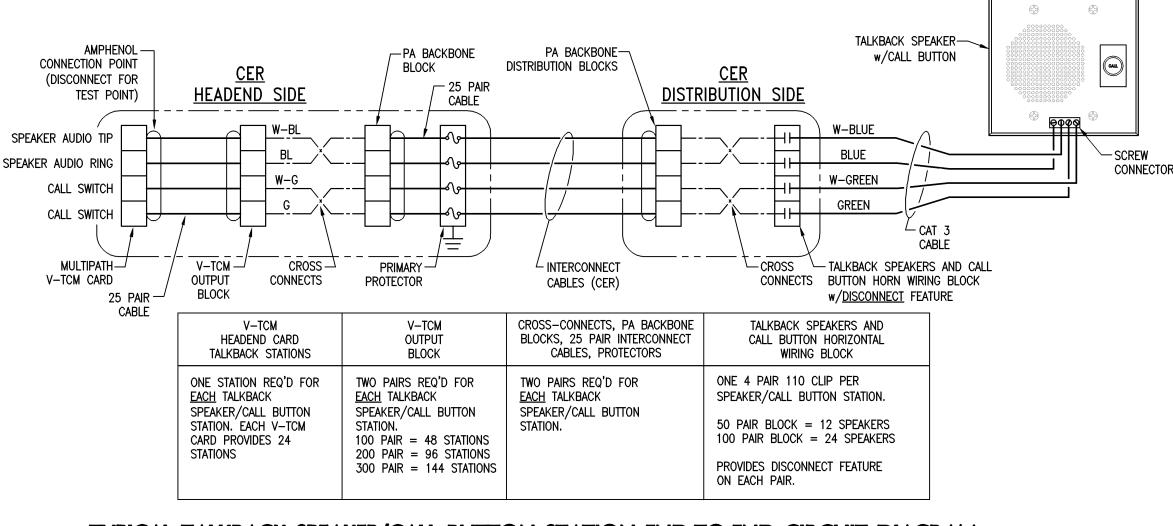
TYPICAL TALKBACK SPEAKER/CALL BUTTON STATION MOUNTING DETAIL (APPLIES TO ALL ROOMS WITH TALKBACK SPEAKERS)

## TALKBACK SPEAKER WITH CALL BUTTON, VALCOM V-1072A-ST-- CALL BUTTON CALL SCREW TERMINALS -(VIEWED FROM REAR) —**TIP** — WHITE∕BLUE — SPEAKER AUDIO TIF $^-$ CAT 3 HORIZONTAL CABLING COIL 2 SPARE PAIRS (PAIR 2 AND PAIR 4) IN DEVICE BOX AT CALL BUTTON

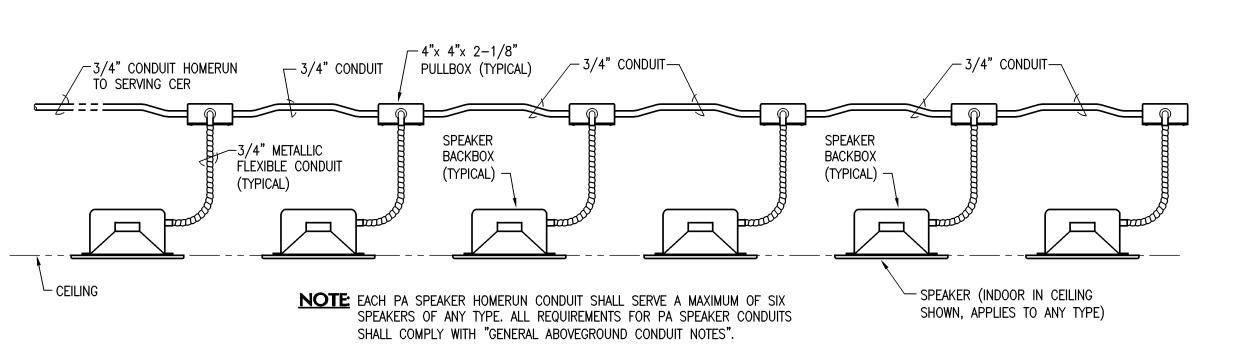
TYPICAL TALKBACK SPEAKER/CALL BUTTON STATION WIRING DIAGRAM

CER/CC/CP. EACH V-STX

CARD PROVIDES 24 ZONES



TYPICAL TALKBACK SPEAKER/CALL BUTTON STATION END-TO-END CIRCUIT DIAGRAM



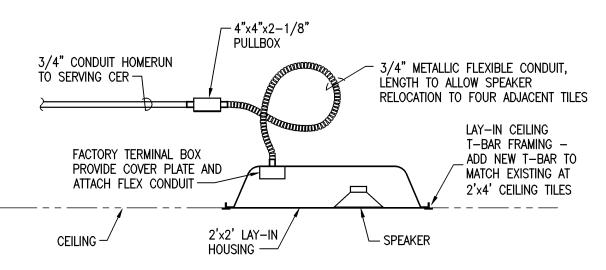
## TYPICAL PA SPEAKER CONDUIT CONNECTION DIAGRAM

#### INTERCOM/PA SYSTEM PROGRAMMING, START-UP AND TRAINING REQUIREMENTS:

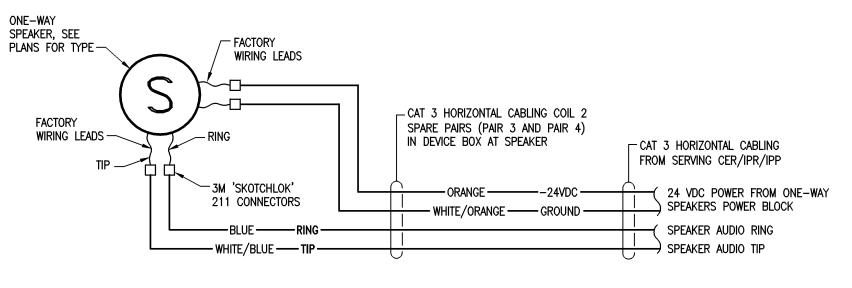
- 1. PROVIDE SYSTEM COMPLETE WITH CONFIGURATION AND PROGRAMMING OF PAGING GROUPS, SYSTEM TONES AND ALL SYSTEM FEATURES AVAILABLE WITH THE HEADEND EQUIPMENT SPECIFIED. COORDINATE FINAL CONFIGURATION AND PROGRAMMING WITH THE OWNER. ADJUST ALL SPEAKER AND TALKBACK VOLUMES TO THE SATISFACTION OF THE OWNER'S PROJECT MANAGER. COORDINATE SOFTWARE PAGING GROUPS (COMBINATIONS OF HARD-WIRED PAGING GROUPS) WITH THE OWNER.
- 2. THE CONTRACTOR SHALL HAVE A MINIMUM OF TWO INTERCOM/PA TECHNICIANS ON STAFF WHO HAVE COMPLETED THE VALCOM 'MULTIPATH' TWO DAY TECHNICAL/INSTALLATION TRAINING COURSE SUCCESSFULLY AND RECEIVED CERTIFICATION FROM THE MANUFACTURER. AT LEAST ONE OF THOSE CERTIFIED TECHNICIANS SHALL BE ON-SITE AND IN RESPONSIBLE CHARGE AT ALL TIMES DURING SYSTEM INSTALLATION, VOLUME ADJUSTMENT AND PROGRAMMING, CONFORM TO MANUFACTURER'S PRINTED INSTALLATION INSTRUCTIONS AND "CLASS CONNECTION INSTALLATION MANUAL" LATEST REVISION.
- 3. USE SPEAKER AND ZONE IDENTIFICATION DETAILED ON DRAWNGS FOR ALL DOCUMENTATION OF SYSTEM PROGRAMMING AND CABLE TESTS.
- 4. COMPLETE INSTALLATION AND TESTING OF ALL WIRING PRIOR TO MAKING CONNECTIONS TO SPEAKERS. TEST CATEGORY 3 AND MULTIPAIR BACKBONE INDEPENDENTLY IN ACCORDANCE WITH TESTING PROCEDURES IN SPECIFICATIONS AND DOCUMENT RESULTS, INSTALL ALL CROSS-CONNECTS REQUIRED TO COMPLETE END-TO-END CIRCUITS TO SPEAKERS AND CALL BUTTONS, BUT DO NOT CONNECT TO HEADEND OR SPEAKERS, TEST EACH END-TO-END CIRCUIT FOR IMPEDANCE IN ACCORDANCE WITH "CLASS CONNECTION INSTALLATION MANUAL" LATEST REVISION. MEASURED IMPEDANCE SHALL BE EQUAL TO THE SPEAKER IMPENDANCE PLUS WIRE RESISTANCE. SPEAKER CIRCUITS MEASURING LESS THAN 20 Ohms IMPEDANCE SHALL NOT BE CONNECTED TO THE SYSTEM (PROVIDE RESISTORS AS REQUIRED), PROVIDE CABLE TEST RESULTS TO ENGINEER IN WRITING.
- 5. FOLLOWING SUCCESSFUL COMPLETION OF WIRE TESTS, CONNECT SPEAKERS AND DO PRELIMINARY CHECK FOR VALID SPEAKER OPERATION. DURING HANDLING AND INSTALLATION OF SPEAKERS AND HEADEND COMPONENTS, <u>DO NOT ALTER FACTORY PRESET VOLUME LEVELS</u>.
- 6. FOLLOWING SUCCESSFUL VAILIDATION OF SPEAKER OPERATION, PERFORM PLANNED AND SYSTEMATIC ADJUSTMENT OF SYSTEM AND SPEAKER VOLUMES IN STRICT ACCORANCE WITH "CLASS CONNECTION INSTALLATION MANUAL" LATEST REVISION, FINAL VOLUME ADJUSTMENTS SHALL BE MADE WITH EACH SPEAKER LOCATION AT ITS NORMALLY ANTICIPATED AMBIENT NOISE LEVEL. SYSTEM "BALANCING" SHALL INCLUDE BUT NOT BE LIMITED TO ADJUSTMENT OF SYSTEM TONES, MICROPHONE VOLUME, GROUP/ALL CALL PAGE TO TALKBACK STATIONS, AUX MUSIC SOURCE DISTRIBUTION TO TALKBACK STATIONS, GROUP/ALL CALL PAGE TO EACH ONE-WAY ZONE, AUX MUSIC SOURCE DISTRIBUTION TO ONE-WAY ZONES, "PHONE TO SPEAKER" VOLUME ADJUSTMENT AT EACH TALKBACK STATION, AND "SPEAKER TO PHONE" VOLUME ADJUSTMENT AT EACH TALKBACK STATION, WALK FACILITY DURING UNOCUPPIED PERIOD WITH MINIMUM BACKGROUND NOISE AND MAKE ALL NECESSARY CORRECTIONS REQUIRED TO ELIMINATE BACKGROUND NOISE AND "HISS". MEASURE AND RECORD ALL SYSTEM, ZONE AND TALKBACK STATION SOUND LEVEL ADJUSTMENTS AND PROVIDE TYPED COPY TO OWNER.
- 7. PROVIDE AND COORDINATE TIE-IN OF THE INTERCOM/PA SYSTEM TO THE TELEPHONE SYSTEM PBX WITH THE TELEPHONE SYSTEM PROVIDER. TIE-IN AND RELATED COORDINATION SHALL BE A JOINT EFFORT BETWEEN THE INTERCOM/PA CONTRACTOR AND THE TELEPHONE SYSTEM PROVIDER AND SHALL INCLUDE PBX INTERFACE TO PA SYSTEM ADMIN PORT 2, PBX INTERFACE TO ENGENIUS WIRELESS PHONE SYSTEM LINES 1 AND 2, PROGRAMMING OF TELEPHONE SYSTEM SETS FOR PAGING ACCESS, AND DISPLAY OF INCOMING INTERCOM/PA SYSTEM CALLS ON ANY QUANTITY OF PBX TELEPHONE SYSTEM SETS IN LOCATIONS SELECTED BY OWNER.
- 8. ORGANIZE AND PROVIDE THREE FORMAL TRAINING SESSIONS EACH CONSISTING OF TWO HOURS OF TRAINING TO OWNER, ONE SESSION 3 DAYS BEFORE SYSTEM CUTOVER, ONE ON THE FIRST DAY FOLLOWING CUTOVER, AND ONE FOLLOWING CUTOVER AT ANY TIME SELECTED BY OWNER.
- 9. COMPLETE ALL WORK DESCRIBED ABOVE PRIOR TO CUTOVER. CUTOVER TO THE NEW SYSTEM WHEN FACILITY IS UNOCCUPIED. SYSTEM SHALL BE FULLY OPERATIONAL IN EVERY RESPECT AT COMPLETION OF
- 10. PROVIDE THE SERVICES OF A CERTIFIED PA TECHNICIAN ON-SITE FOR A FULL EIGHT HOURS ON THE FIRST DAY OF OPERATION FOLLOWING SYSTEM CUTOVER. THE CERTIFIED TECHNICIAN SHALL ASSIST OWNER STAFF IN THE PROPER OPERATION OF THE SYSTEM, SHALL TROUBLE-SHOOT AND CORRECT ANY PROBLEMS ENCOUNTERED WITH THE SYSTEM, AND SHALL FINE-TUNE SYSTEM PROGRAMMING TO THE SATISFACTION OF THE OWNER.
- 11. COORDINATE ALL WORK CLOSELY WITH THE MANUFACTURER.

#### INTERCOM/PA GENERAL ABOVEGROUND CONDUIT NOTES

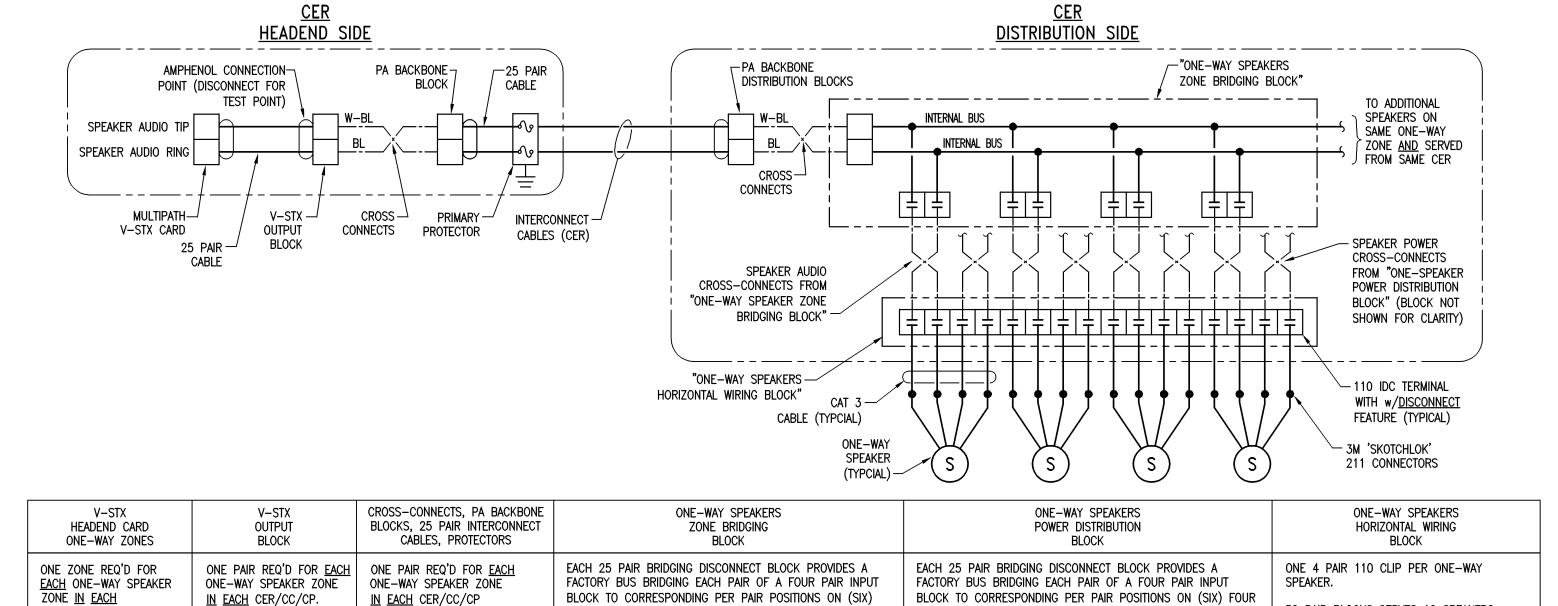
- 1. PROVIDE A HOMERUN CONDUIT RUN CONTINUOUSLY FROM EACH SPEAKER AND SPEAKER/CALL BUTTON STATION TO SERVING CER. EACH HOMERUN CONDUIT SHALL BE 3/4" TRADE SIZE AND SHALL SERVE A MAXIMUM OF SIX ONE-WAY SPEAKERS OR TALKBACK SPEAKER/CALL BUTTON STATIONS (SIX CATEGORY 3 CABLES MAX). SPEAKERS MAY SHARE CONDUITS, BUT NOT CABLING - ALL HORIZONTAL CATEGORY 3 CABLES ARE HOMERUNNED FROM SPEAKER TO HORIZONTAL WIRING BLOCK WITH NO INTERMEDIATE SPLICES OR CONNECTIONS, "DAISY-CHAINING" OF SPEAKER AND CALL BUTTON CABLING IS PROHIBITED.
- 2. PROVIDE A HOMERUN CONDUIT RUN CONTINUOUSLY FROM THE 'PA INTERFACE OUTLET' TO THE SERVING CER. EACH HOMERUN CONDUIT SHALL BE 3/4" TRADE SIZE AND SHALL SERVE ONE SUCH LISTED DEVICE ONLY.
- 3. THE CONTRACTOR SHALL COORDINATE THE FINAL ROUTING OF CONDUITS TO AVOID CONFLICTS WITH OTHER UTILITIES AND OBSTACLES, WHILE MINIMIZING CHANGES IN DIRECTION AND OVERALL CONDUIT LENGTH. ALL CONDUIT SHALL BE RUN OVERHEAD UNLESS OTHERWISE SPECIFICALLY INDICATED. OBTAIN APPROVAL OF ENGINEER PRIOR TO ANY CHANGES IN ROUTING.
- 4. ALL CONDUITS RUN INDOORS SHALL BE RUN CONCEALED OVERHEAD ABOVE CEILINGS UNLESS LOCATED IN SPACES WITHOUT CEILINGS, IN AN UNFINISHED SPACE SUCH AS EQUIPMENT ROOMS OR IN SPACES SPECIFICALLY INDICATED TO HAVE EXPOSED CONDUIT INSTALLATIONS, INDOOR CONDUIT SHALL BE EMT WITH STEEL FITTINGS, DIE CAST EMT FITTINGS ARE NOT ALLOWABLE, FITTINGS IN EXPOSED INDOOR LOCATIONS SHALL BE STEEL COMPRESSION TYPE. FITTINGS IN CONCEALED INDOOR LOCATIONS SHALL BE STEEL SET SCREW TYPE. SUPPORT EXPOSED CONDUIT AT A MINIMUM OF 4'-0" ON CENTER WITH 2-HOLE HEAVY DUTY GALVANIZED STEEL HARDWARE. DO NOT RUN CONDUITS BELOW SLAB EXCEPT AS SPECIFICALLY INDICATED.
- 5. SUPPORT CONDUIT DIRECTLY FROM BUILDING STRUCTURE USING APPROVED HARDWARE. DO NOT SUPPORT CONDUIT FROM OTHER SYSTEMS COMPONENTS OR SUPPORTS UNLESS SPECIFICALLY APPROVED BY THE ENGINEER. ROUTE ALL CONDUITS AS HIGH AS POSSIBLE, BUT DO NOT RUN CONDUITS CLOSER THAN 6" BELOW ROOF DECK (TO AVOID DAMAGE FROM LONG SCREWS USED IN FUTURE ROOF REPLACEMENTS). RUN ALL CONDUITS PARALLEL/PERPENDICULAR AND PLUMB WITH BUILDING LINES.
- 6. CONDUIT BODIES SUCH AS 'LB' FITTINGS ARE NOT ALLOWABLE.
- 7. PROVIDE PULLBOXES OF THE SAME TYPE AND SIZE AS THOSE INDICATED ON DRAWINGS FOR EACH RUN OF CONDUIT AT EVERY 100 FEET ON CENTER AND AT EACH END OF CONDUIT RUNS CONTAINING A TOTAL OF TWO 90 deg BENDS OR A COMBINATION OF LESSER BENDS TOTALING 180 deg (MINIMUM REQUIREMENTS). CONDUIT RUNS CONTAINING MORE THAN TWO 90 deg BENDS WITHOUT A PULLBOX ARE NOT ALLOWABLE. FACTORY CONDUIT ELBOWS AND ALL OTHER BENDS SHALL HAVE A MINIMUM RADIUS OF SIX TIMES THE INTERNAL CONDUIT DIAMETER. CONDUIT OFFSETS AND PULLBOXES REQUIRED TO SUIT FIELD CONDITIONS AND TO CONFORM TO THESE REQUIREMENTS SHALL BE PROVIDED AT NO ADDITIONAL COST TO THE OWNER.
- 8. TERMINATE CONDUITS AT OPPOSITE ENDS OF PULLBOXES. DO NOT TERMINATE CONDUITS AT RIGHT ANGLES TO EACH OTHER EXCEPT AS SPECIFICALLY INDICATED.
- 9. WHERE CONDUIT AND PULLBOXES ARE LOCATED ABOVE NON-ACCESSIBLE CEILINGS OR SOFFITS (EXAMPLE PLASTER, METAL, OR GYPSUM BOARD), INSTALL AN 24"x 24" ALL ALUMINUM CEILING ACCESS DOOR IN CEILING DIRECTLY BELOW EACH SUCH PULLBOX. ACCESS DOORS SHALL BE LARSEN'S L-LCP. ALL ALUMINUM CONSTRUCTION AND FASTENERS. PROVIDE ACCESS DOORS FACTORY PRIMED FOR PAINTING. FINISH PAINT WITH TWO COATS ENAMEL AFTER INSTALLATION TO MATCH EXISTING CEILING, SOFFIT, OR WALL.
- 10. TERMINATE ALL CONDUIT ENDS WITH THREADED PLASTIC INSULATING BUSHINGS (PUSH-ON NOT ALLOWABLE). BUSHINGS MUST FIT TIGHTLY ON CONDUIT CONNECTOR THREADS, INSTALL ALL BUSHINGS PRIOR TO PULLING CABLE.
- 11. IDENTIFICATION: IDENTIFY ALL INDOOR INTERCOM/PA CONDUIT AND PULLBOXES ABOVE LAY-IN CEILINGS, ACCESS DOORS, IN ROOF SPACE, AND IN ALL EXPOSED LOCATIONS (EXCEPT WITHIN CER) WITH YELLOW PAINT AT EVERY PULLBOX AND ON CONDUIT AT EACH COUPLER (PAINT ENTIRE COUPLER). DO NOT PAINT CONDUIT COUPLERS AND ENCLOSURES IN CER.



TYPICAL ONE-WAY SPEAKER MOUNTING DETAIL



TYPICAL ONE-WAY SPEAKER WIRING DIAGRAM



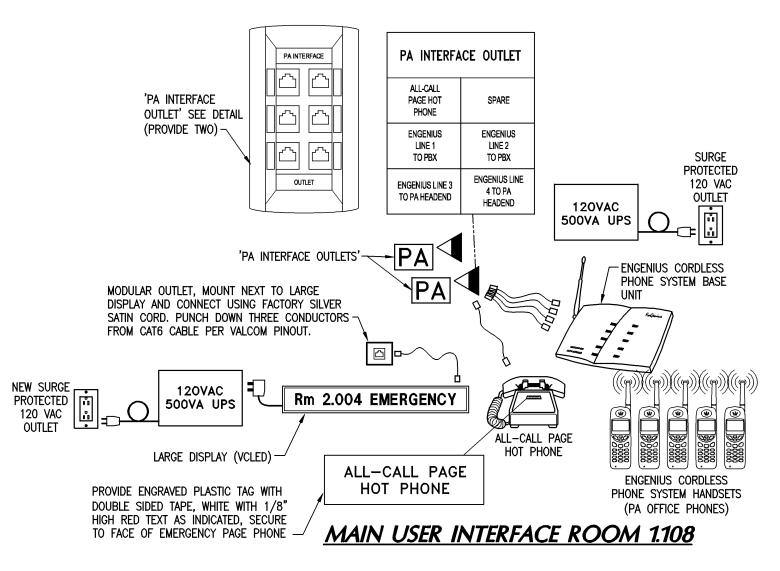
TYPICAL ONE-WAY SPEAKER END-TO-END CIRCUIT DIAGRAM

FOUR PAIR OUTGOING BLOCKS. PROVIDES DISCONNECT

A SINGLE ZONE CROSS-CONNECT WITH NO DOUBLE

FEATURE AT EACH OUTGOING PAIR. USE BRIDGING BUS TO

CONNECT MULTIPLE SPEAKERS ON SAME ONE-WAY ZONES TO



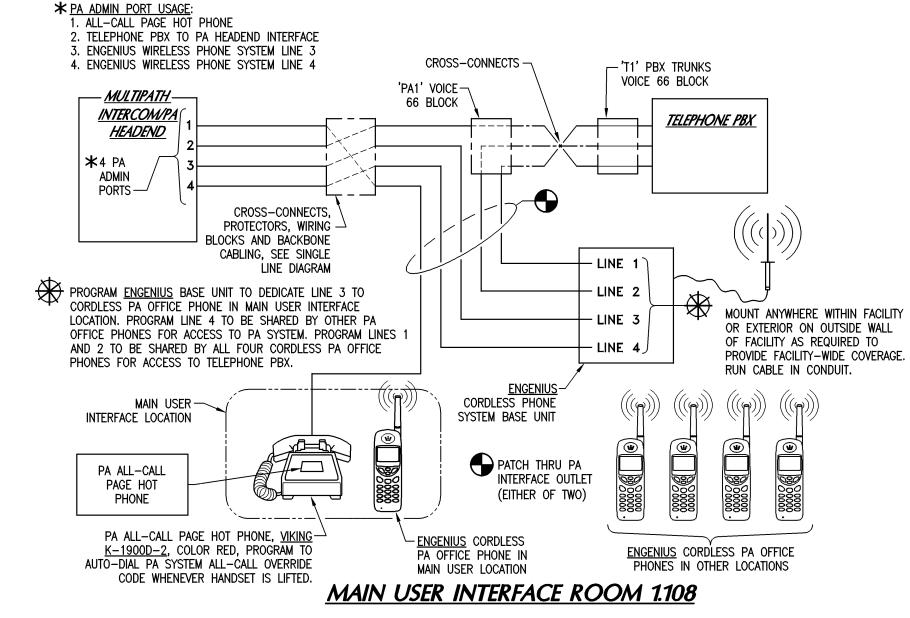
100 PAIR = 48 ZONES

200 PAIR = 96 ZONES

100 PAIR = 48 ZONES

200 PAIR = 96 ZONES

MAIN USER INTERFACE - INTERCOM / PA SYSTEM **RECEPTION 108 - SYSTEM DIAGRAM** 



PAIR OUTGOING BLOCKS. PROVIDES DISCONNECT FEATURE AT

EACH OUTGOING PAIR. USE BRIDGING BUS TO PROVIDE 24 VDC

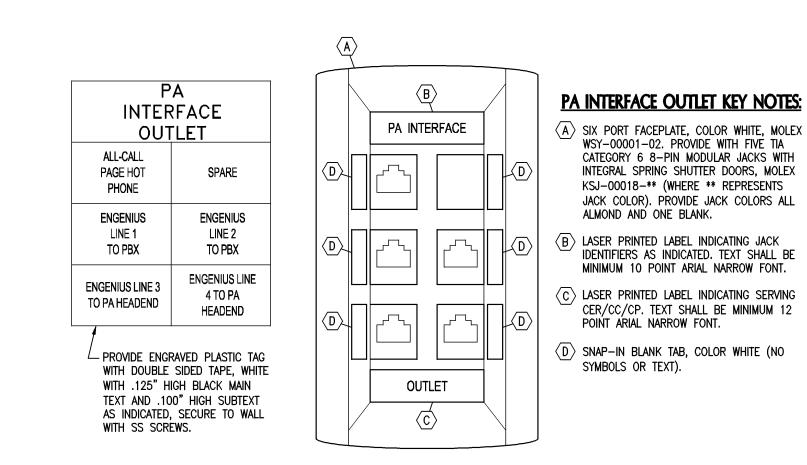
POWER CROSS-CONNECTS TO MULTIPLE ONE-WAY SPEAKERS

FROM A SINGLE 24 VDC POWER SUPPLY WITH NO DOUBLE

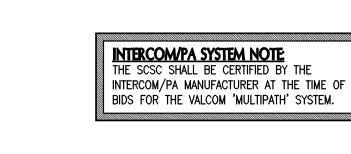
INTERCOM/PA TO TELEPHONE INTERFACE - SIMPLIFIED DIAGRAM

### **INTERCOM/PA GENERAL NEW WORK NOTES:**

- 1. ALL HORIZONTAL INTERCOM/PA CABLES SHALL BE FOUR PAIR 24 AWG CATEGORY 3 UTP <u>WITH YELLOW JACKET</u> AND SHALL HAVE RISER (CMR) JACKET (EXCEPT WHERE AERIAL GRADE CABLING IS INDICATED AT PORTABLE BUILDINGS). MAKE ALL WIRE-TO-WIRE CONNECTIONS USING 'SCOTCHLOK 211' CONNECTORS CRIMPED WITH 3M FACTORY '211' TERMINATION TOOL.
- 2. RUN ALL HORIZONTAL INTERCOM/PA CABLES CONTINUOUS IN CONDUIT FROM DEVICE SERVED TO SERVING CER. SEE CONDUIT NOTES.
- 3. ALL CABLES SHALL BE HOMERUNNED TO SERVING CER AS INDICATED ON SINGLE LINE DIAGRAM. IN NO CASE SHALL CABLES BE "DAISY—CHAINED" BETWEEN MULTIPLE SPEAKERS OR ANY OTHER INTERCOM/PA DEVICE.
- 4. LOCATE OUTDOOR HORN SPEAKERS UP HIGH ON WALL AS HIGH AS POSSIBLE, ALWAYS MOUNT UP AND OUT OF REACH TO PREVENT VANDALISM. MAKE WALL PENETRATIONS ENTERING WITHIN INTERIOR CEILING SPACE WHEREVER POSSIBLE. SECURELY ATTACH SPEAKER BASE DIRECTLY TO WALL OF BEAM AND SET IN BED OF LIFETIME CLEAR 'POLYSEAMSEAL' SEALANT AND MAKE WATERTIGHT - SECURE WITH STAINLESS STEEL FASTENERS AND COMMERCIAL GRADE EXPANSION ANCHORS (TAPCONS NOT ALLOWED). WHERE SPEAKERS MUST BE ATTACHED TO METAL FASCIA LOCATE AT FRAMING AND USE STAINLESS STEEL THRU BOLTS WITH SS WASHERS AND LOCKNUTS. COREDRILL WALL AND/OR BEAM FOR 1/2" RIGID CONDUIT PASS THRU FROM BACK OF SPEAKER MOUNTING FLANGE INTO INTERIOR. PROVIDE 4"x 4"x 2-1/8" BACKBOX ON INSIDE OF WALL AND EXTEND 3/4" EMT CONDUIT FROM BOX TO SERVING CER.
- 5. PROVIDE NEW CEILING GRID TRIM BARS AND NEW CEILING TILES TO MATCH EXISTING AS REQUIRED TO INSTALL SPEAKERS IN EXISTING LAY-IN ACOUSTICAL TILE CEILINGS.
- 6. CEILING SPEAKER LOCATIONS ARE APPROXIMATE, COORDINATE EXACT SPEAKER LOCATIONS WITHIN CEILING GRID WITH LIGHT FIXTURES. HVAC AIR DISTRIBUTION DEVICES, FIRE ALARM DEVICES, AND ANY OTHER CEILING MOUNTED DEVICES TO AVOID CONFLICTS. PLACE AS NEAR TO LOCATION INDICATED AS POSSIBLE IN SYMMETRICAL PATTERN. MOUNT TALKBACK SPEAKERS IN CLASSROOMS FOR EASE OF USE BY TEACHER (TALKBACK/CALLOUT) WHILE MAINTAINING ADEQUATE SOUND DISTRIBUTION THROUGHOUT CLASSROOM SPACE.



PA INTERFACE OUTLET - FACEPLATE DETAIL NOT TO SCALE



50 PAIR BLOCKS SERVES 12 SPEAKERS

100 PAIR BLOCK SERVES 24 SPEAKERS

PROVIDES DISCONNECT FEATURE ON EACH

3M SKOTCHLOCK 211 CONNECTOR NOTE: MAKE ALL '211' TERMINATIONS USING ONLY 3M FACTORY '211' TERMINATION TOOLS.



Engineering Group, LLC Brown, Cook & Gulley 410 W. Nine Mile Road, Suite A Pensacola, Florida 32534 Florida Certificate of Authorization #9308

AND

NOTES

SHEET TITLE:
INTERC

PROJECT NO:

DATE: 06.01.2011

FILE NO:

REVISION:

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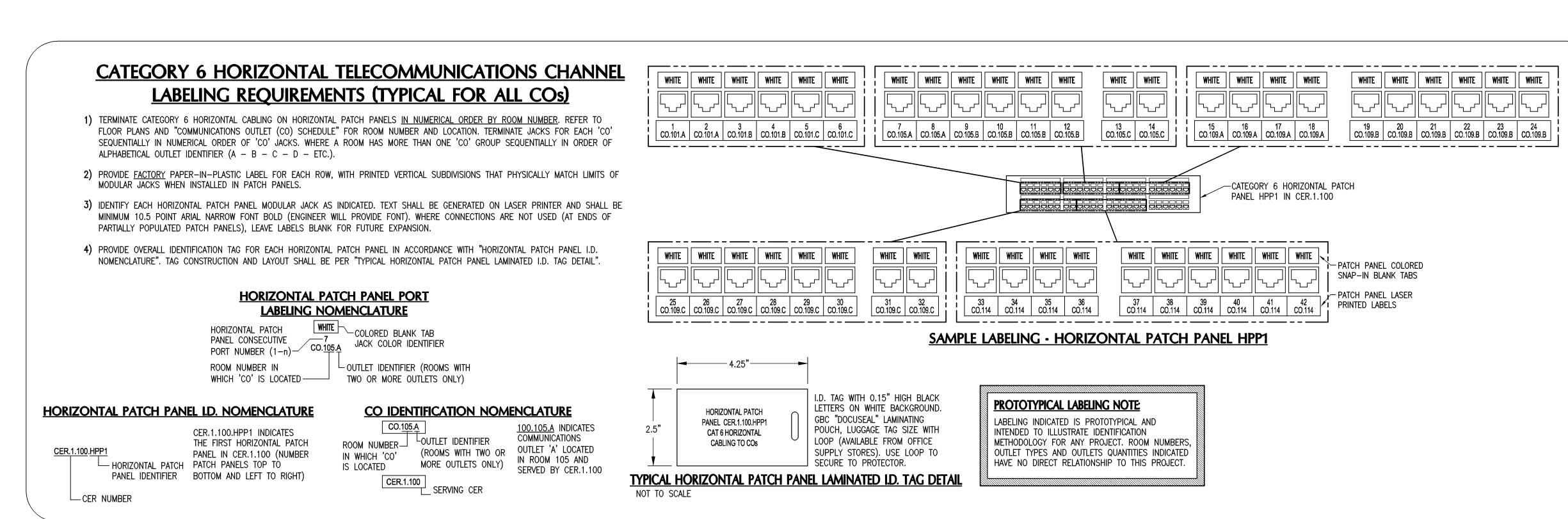
Samuel L. Gulley, PE #5000

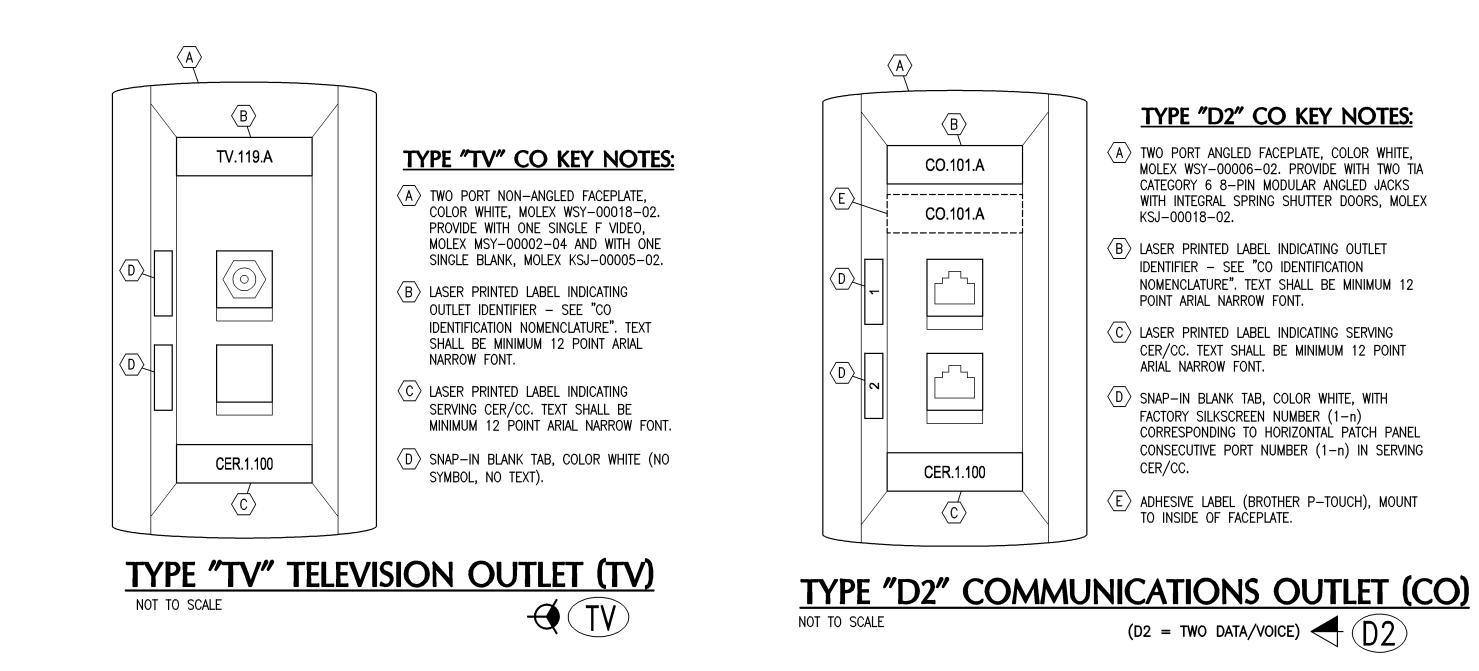
bay design

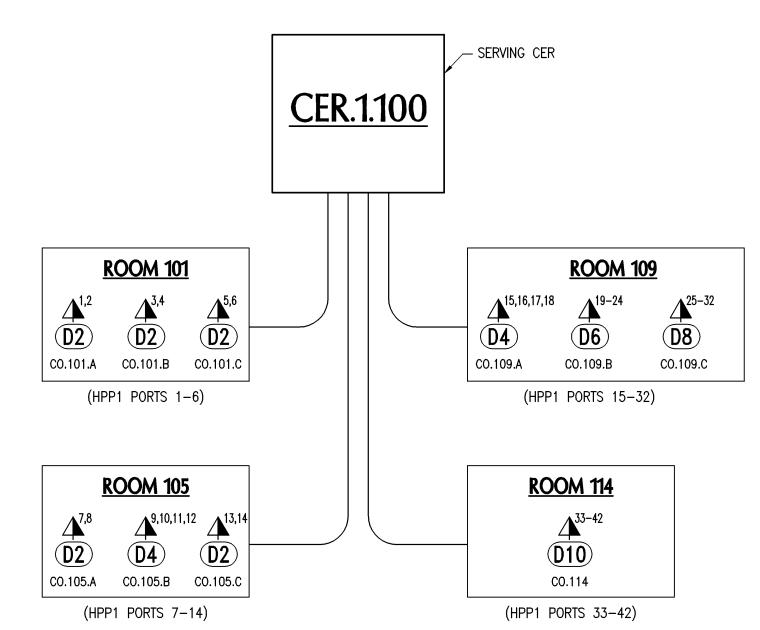
associates architects, pl

florida certificate of

authorization AA0003597







PROTOTYPICAL LABELING GUIDE
COMMUNICATIONS OUTLETS

NOT TO SCALE

RACEWAY, FACEPLATE AND DEVICE COLOR NOTE

VERIFY ALL FACEPLATE AND DEVICE COLORS WITH THE

ARCHITECT AND THE OWNER'S PROJECT MANAGER PRIOR TO

PRE—INSTALLATION SUBMITTALS. PROVIDE ALTERNATE COLOR

STANDARD WITH THE MANUFACTURER AT NO ADDITIONAL COST

TO THE OWNER IF SO DIRECTED. COORDINATE WITH THE

ENGINEER PRIOR TO ORDERING MATERIALS.

PROTOTYPICAL LABELING NOTE:

LABELING INDICATED ON THIS SHEET IS PROTOTYPICAL AND INTENDED TO ILLUSTRATE IDENTIFICATION METHODOLOGY FOR ANY PROJECT. ROOM NUMBERS, OUTLET TYPES AND OUTLETS QUANTITIES INDICATED HAVE NO DIRECT RELATIONSHIP TO THIS PROJECT.

FACEPLATE INSTALLATION NOTE:

ADD SMALL SS FLAT WASHER TO BOTH PLATE SCREWS TO PREVENT

GENERAL LABELING NOTE:

1) ALL COs, PROTECTOR BLOCKS, VOICE BLOCKS, AND HORIZONTAL PATCH PANELS SHALL BE LABELED USING THE <u>FINAL</u> ROOM NUMBERS. <u>OBTAIN FINAL ROOM NUMBERS FROM THE ARCHITECT PRIOR TO LABELING.</u>

2) ALL LABELS FOR COs, PROTECTOR BLOCKS, VOICE BLOCKS, AND HORIZONTAL PATCH PANELS SHALL BE PRODUCED USING FACTORY LABEL SHEETS FOR LASER PRINTERS MANUFACTURED FOR THE SPECIFIC DEVICE.

## GENERAL TEXT WIDTH NOTE:

1) USE ARIAL NARROW FONT, WHICH IS VERY COMPRESSED BY WIDTH. IF ADDITIONAL WIDTH COMPRESSION IS REQUIRED FOR UNUSUALLY LONG LABELS, USE THE MS WORD FORMAT-FONT-CHARACTER SPACING-SPACING-CONDENSED-BY X POINTS (USE POINT REDUCTIONS OF LESS THAN ONE IN TENTHS OF A POINT - USE NO MORE REDUCTION THAN REQUIRED TO FIT LABEL).

ENGINEER.

2) LABELING TEMPLATES IN MS WORD ARE AVAILABLE FROM THE

#### CO IDENTIFICATION NOMENCLATURE

ROOM NUMBER OUTLET IDENTIFIER (ROOMS WITH TWO OR IN WHICH 'CO' MORE OUTLETS ONLY)

CER.1.100E

SERVING CER

#### TV IDENTIFICATION NOMENCLATURE

ROOM NUMBER OUTLET IDENTIFIER (ROOMS WITH TWO OR IS LOCATED MORE OUTLETS ONLY)

CER.1.100E

SERVING CER



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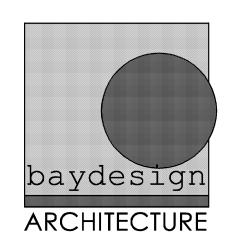
bay design associates architects, pl florida certificate of authorization AA0003597

PROJECT:

Gulf Breeze Community Center
800 Shoreline Drive
Gulf Breeze, FI 32561
SHEET TITLE:
COMMUNICATIONS TYPICAL LABELING DETAILS

PROJECT NO:
FILE NO:
DATE: 06.01.2011
REVISION:

TEL203





Samuel L. Gulley, PE #50007

bay design associates architects, pl

florida certificate of authorization AA0003597

e Community Center

PROJECT:

ON TOUR BROACT:

COUR BROACE,

SHEET TITLE:

SHEET TITLE:

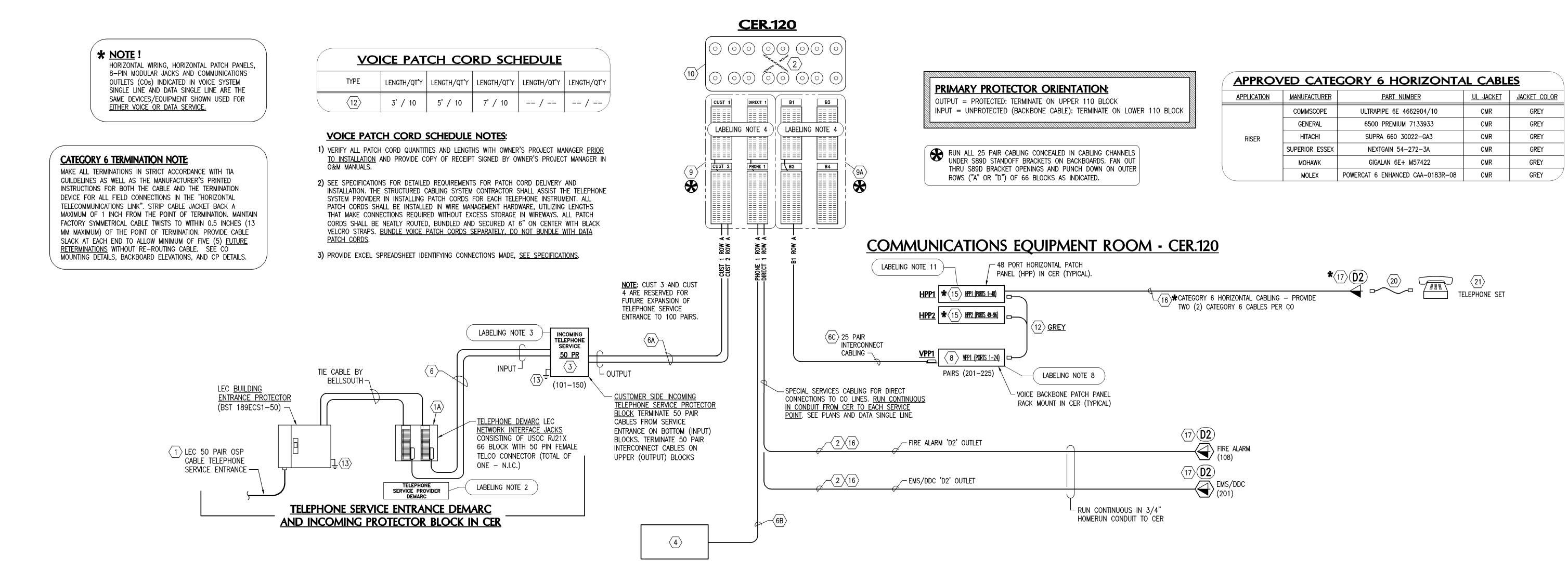
ON SHOOT STATE:

ON SHEET TITLE:

PROJECT NO:
FILE NO:
DATE: 06.01.2011
REVISION:

SHEET

TEL301



### VOICE SYSTEM SINGLE LINE KEY NOTES:

- THE SCS CONTRACTOR SHALL NOTIFY THE TELEPHONE SERVICE PROVIDER/LOCAL EXCHANGE CARRIER (LEC) AND THE OWNER (WHEN THE TELEPHONE SERVICE ENTRANCE CONDUIT AND BACKBOARD FACILITIES ARE IN PLACE) AND SHALL COORDINATE ALL WORK RELATED TO THE TELEPHONE SERVICE ENTRANCE WITH THE LEC AND THE OWNER AS REQUIRED. THE OWNER SHALL PLACE THE ORDER FOR TELEPHONE CIRCUITS WITH THE LEC. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT THE TELEPHONE SERVICE ENTRANCE CONDUIT AND BACKBOARD FACILITIES ARE COMPLETED IN A TIMELY MANNER SUCH THAT TELEPHONE SERVICES TO THE BUILDING ARE IN PLACE AND FULLY OPERATIONAL WELL AHEAD (2 WEEKS MINIMUM) OF OCCUPANCY BY THE OWNER. THE GENERAL CONTRACTOR AND ARCHITECT SHALL BE COPIED ON ALL CORRESPONDENCE RELATED TO THIS WORK.
- ORANGE BACKBOARD, RELTEC R183C6, WITH TWO 89D BRACKETS. CONTRACTOR PROVIDE BACKBOARD AND BRACKET FOR MOUNTING OF DEMARC BLOCKS BY LEC. COORDINATION INSTALLATION WITH LEC AND FIELD VERIFY THAT LEC INSTALLS DEMARC BLOCKS ON ORANGE BACKBOARD.
- 2 SYSTEM CROSS—CONNECTS, 24 AWG SOLID COPPER CONDUCTORS, COLOR BLUE/WHITE. COORDINATE WITH TELEPHONE SYSTEM PROVIDER.
- PRIMARY PROTECTOR, AVAYA 489ACA1-50 110 STYLE 50 PAIR PROTECTOR BLOCK WITH 110 BLOCK INPUT AND 110 BLOCK OUTPUT. PROVIDE WITH 50 SOLID STATE PROTECTOR UNITS, AVAYA 4C1S. SEE "VOICE LABELING NOTES".
- 4 PHONE SYSTEM PROVIDED BY OTHERS (TELEPHONE SYSTEM PROVIDER) UNDER SEPARATE CONTRACT (N.I.C.).
- 6 ESSEX OR GENERAL CABLE 1010 25 PAIR CATEGORY 3 TELEPHONE CABLE, CMR JACKET, CUSTOM LENGTH, FIELD CONNECTORIZE AT PRE-WIRED 66 BLOCK (DEMARC) END WITH 50-PIN TELCO CONNECTOR WITH GOLD PLATED CONTACTS, STANDARD TELCO PINOUT, GENDER TO SUIT BLOCK CONNECTOR. PUNCH OTHER END DOWN ON PROTECTOR BLOCK BOTTOM (INPUT) BLOCK.
- DOWN ON PROTECTOR BLOCK UPPER (OUTPUT) 110 BLOCK. PUNCH OTHER END DOWN ON 66 BLOCK.

(6A) ESSEX OR GENERAL CABLE 1010 25 PAIR CATEGORY 3 TELEPHONE CABLE, CMR JACKET, CUSTOM LENGTH, PUNCH ONE END

- 6B ESSEX OR GENERAL CABLE 1010 25 PAIR CATEGORY 3 TELEPHONE CABLE, CMR JACKET, CUSTOM LENGTH, PUNCH ONE END DOWN ON 66 BLOCK. TERMINATE OTHER END AT PHONE SYSTEM AS DIRECTED BY TELEPHONE SYSTEM PROVIDER.
- ESSEX OR GENERAL CABLE 1010 25 PAIR CATEGORY 3 TELEPHONE CABLE, CMR JACKET, COLOR GREY, CUSTOM LENGTH, PUNCH ONE END DOWN ON 66 BLOCK, FIELD CONNECTORIZE OTHER END WITH 50-PIN TELCO CONNECTOR WITH GOLD PLATED CONTACTS, STANDARD TELCO PINOUT, FOR CONNECTION TO PRE-WIRED MODULAR PATCH PANEL, GENDER TO SUIT BLOCK CONNECTOR.
- 24 PORT FACTORY PRE-CONNECTORIZED MODULAR VOICE PATCH PANEL, CATEGORY-3, WITH (24) EIGHT PIN MODULAR JACKS, EACH WITH ONE PAIR USOC WIRING PINOUT, PANDUIT VP24382TV25. PROVIDE WITH 24 FACTORY TELEPHONE ICON TABS, COLOR GREY. SEE "VOICE LABELING NOTES".

- HALF MODULE GREEN BACKBOARD WITH FOUR 89D BRACKETS, RELTEC R183A3. PROVIDE FOUR CATEGORY 5 66 BLOCKS, SIEMON S66M1-50. PROVIDE EACH BLOCK WITH TWO ORGANIZER RINGS FOR ROUTING CROSS-CONNECTS, SIEMON S606P. PROVIDE CUSTOMER SIDE TELEPHONE SERVICE ENTRANCE BLOCKS "CUST 1" AND "CUST 2" WITH GREEN COVER, SIEMON MC4LH-7, "D1" WITH CLEAR COVER, SIEMON MC4. SEE "VOICE LABELING NOTES".
- TO THE BUILDING ARE IN PLACE AND FULLY OPERATIONAL WELL AHEAD (2 WEEKS MINIMUM) OF OCCUPANCY BY THE OWNER. THE SERVICES

  GENERAL CONTRACTOR AND ARCHITECT SHALL BE COPIED ON ALL CORRESPONDENCE RELATED TO THIS WORK.

  SERVICE ENTRANCE CONDUIT AND BACKBOARD WITH EIGHT 89D BRACKETS, RELTEC R183A1. PROVIDE EIGHT CATEGORY 5 66 BLOCKS, SIEMON S66M1—50. PROVIDE EACH BLOCK WITH TWO ORGANIZER RINGS FOR ROUTING CROSS—CONNECTS, SIEMON S606P. PROVIDE EACH BLOCK WITH BLUE COVER, SIEMON MC4LH—6. SEE "VOICE LABELING NOTES".
  - (10) FULL WHITE BACKBOARD, RELTEC R187B1.

NOT TO SCALE

- EQUIPMENT ROOM VOICE PATCH CORDS, FACTORY TERMINATED AND TESTED CATEGORY—5e (MINIMUM) FOUR PAIR 100—0HM UNSHIELDED TWISTED PAIR (UTP) CABLE WITH 24 GAGE STRANDED COPPER CONDUCTORS, COLOR GREY. PROVIDE WITH 8—PIN MODULAR PLUG ON BOTH ENDS AND TIA 568A PIN/PAIR ASSIGNMENTS, MOLEX PCD—0017x—0E (NO EQUAL). FIELD BUILT OR ASSEMBLED PATCH CORDS WILL NOT BE ACCEPTED. PROVIDE PATCH CORD QUANTITIES AND LENGTHS AS SCHEDULED THIS SHEET. PROVIDE DOCUMENTATION OF FACTORY TESTING AT SUBMITTAL.
- SOLID COPPER INSULATED GROUNDING CONDUCTOR, #6 AWG. FOR GROUNDING AT CER AND CC, BOND TO BACKBOARD MOUNTED MAIN GROUNDING BUSBAR.
- TIA CATEGORY 6 HORIZONTAL PATCH PANEL, 48 PORT, TIA 568A PINOUT, MOLEX POWERCAT 6 PID-00147. PROVIDE WITH FACTORY PLASTIC LABEL HOLDERS, DESIGNATION LABELS, REAR CABLE MANAGERS, AND MOUNTING HARDWARE. PROVIDE COLORED SNAP-IN BLANK TAB (MOLEX CSP-00021-XX) FOR EACH MODULAR JACK, COLOR TO MATCH CORRESPONDING JACK IN COMMUNICATIONS OUTLET (CO).
- TIA CATEGORY 6 HORIZONTAL CABLING, 4 PAIR UTP, 23 GAGE SOLID COPPER CONDUCTORS. MAXIMUM INSTALLED LENGTH 90 METERS (295'). PROVIDE DOCUMENTATION OF CURRENT UL CERTIFICATION WITH SUBMITTALS. PROVIDE WITH CMR (RISER) JACKET, COLOR GREY. SEE SCHEDULE THIS SHEET FOR APPROVED CABLES.
- 17 TYPE "D2" COMMUNICATIONS OUTLET (CO) WITH TWO (2) CATEGORY 6 8-PIN MODULAR JACKS. SEE PLANS AND DETAILS.
- HEAVY DUTY COMMERCIAL GRADE SILVER SATIN TELEPHONE LINE CORDS TOTAL OF TWENTY (20). SCSC PROVIDE LENGTHS TO SUIT TELEPHONE LOCATIONS WITH MINIMAL EXCESS CORD LENGTH. COORDINATE INSTALLATION WITH TELEPHONE SYSTEM PROVIDER. TURN UNUSED LINE CORDS OVER TO OWNER'S PROJECT MANAGER.
- 21) BY TELEPHONE SYSTEM PROVIDER (N.I.C.): TELEPHONE SETS. CONTRACTOR PROVIDE ALL PATCHING IN RACKS AND ASSIST TELEPHONE SYSTEM PROVIDER IN PLACING SETS AND PROFESSIONALLY INSTALLING LINE CORDS.

### VOICE LABELING NOTES:

VOICE SYSTEM SINGLE LINE CONFIGURATION DIAGRAM

LABELING NOTE 1

ELEVATIONS.

1) CONTRACTOR PROVIDE ANNOTATED ADOBE .PDF FILES OF AS-BUILT DRAWINGS, ALL 'TEL' SHEETS. PROVIDE 3 BOUND 1/2 SIZE HARD COPY PLOTS AND 3 CD'S WITH .PDF FILES. STORE IN DOCUMENTATION SHELF IN CER.

**NOTE:** RUN ALL CABLES CONTINUOUS BETWEEN TERMINATION POINTS

INDICATED WITH NO INTERMEDIATE SLICES OR TERMINATIONS.

- 2) PROVIDE ENGRAVED PLASTIC TAG WITH DOUBLE SIDED TAPE, WHITE WITH 3/16" HIGH BLACK LETTERS "TELEPHONE SERVICE PROVIDER DEMARC", SECURE TO BACKBOARD WITH SS SCREWS, SEE BACKBOARD
- 3) PROVIDE FACTORY ROW LABELS (GREEN) WHICH DESIGNATE PAIR COUNTS IN 5 PAIR INCREMENTS (FACTORY LABELED 1-5, 6-10, 11-15 AND SO ON THRU 21-25, 46-50 OR 96-100 AS APPLICABLE). PROVIDE ENGRAVED PLASTIC TAG MOUNTED ON PROTECTOR BLOCK FRONT COVER. TAG SHALL INDICATE "INCOMING TELEPHONE SERVICE" AND CABLE PAIR COUNTS. FOR TAG FABRICATION, SEE "TYPICAL VOICE BLOCK ENGRAVED TAG DETAIL". FOR PAIR COUNTS SEE THIS SHEET.
- 4) PROVIDE ENGRAVED PLASTIC TAG WITH DOUBLE SIDED TAPE, WHITE WITH 1/8" HIGH BLACK LETTERS' SECURE TO 66 BLOCK HINGED COVER. LABEL EACH BLOCK AS INDICATED ON SINGLE LINE DIAGRAM (EXAMPLE "CUST 1"). PROVIDE SIEMON MC4-LBL-25 ADHESIVE BACKED LABEL ON INSIDE OF COVER TYPE BEFORE
- INSTALLING WITH FOLLOWING TEXT:

  CUST 1 = CUSTOMER SIDE OF INCOMING TELEPHONE SERVICE PAIRS 101–125
  CUST 2 = RESERVED FOR EXPANSION
- SPARE = SPARE
  B1 = BACKBONE BLOCK PAIRS 201-250
  B2 = BACKBONE BLOCK PAIRS 251-300 AND SO ON

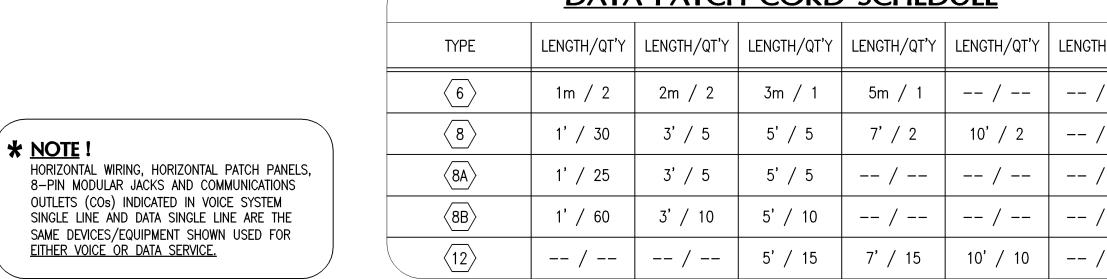
DIRECT 1 = DIRECT CO LINE CONNECTION BLOCKS

HORIZONTAL PATCH PANELS.

- 8) PATCH PANEL IS FACTORY NUMBERED PORTS 1-48. PROVIDE ENGRAVED PLASTIC TAG MOUNTED ON RACK BLANK ABOVE BLOCK. TAG SHALL INDICATE "VOICE BACKBONE DISTRIBUTION" IN CER AND "VOICE BACKBONE DISTRIBUTION FROM CER" IN CCs/CPs ALONG WITH CABLE PAIR COUNTS AND PORT NUMBERS. FOR INSTALLATION DETAILS SEE RACK ELEVATIONS, FOR TAG FABRICATION, SEE "TYPICAL VOICE BLOCK ENGRAVED TAG DETAIL". FOR PAIR COUNTS SEE THIS SHEET.
- 11) SEE "CATEGORY 6 HORIZONTAL TELECOMMUNICATIONS CHANNEL LABELING REQUIREMENTS" FOR LABELING OF

#### DATA SYSTEM SINGLE LINE KEY NOTES

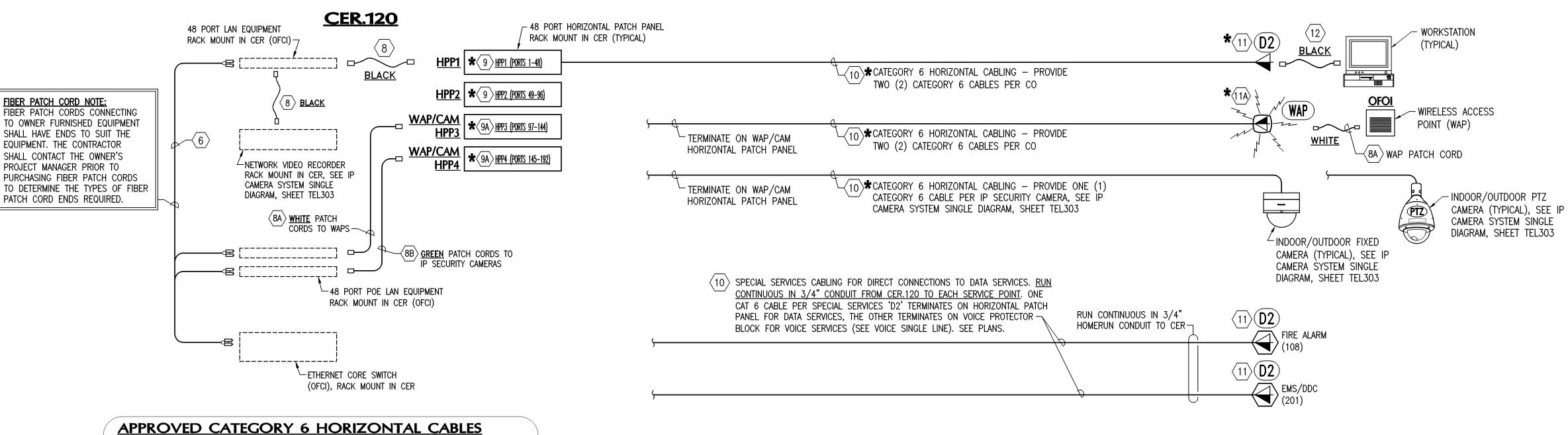
- (6) FIBER OPTIC PATCH CORD, DUPLEX FIBER, 50/125 OM3 MULTIMODE, DUAL 'SC' CONNECTORS EACH END, MOLEX, COLOR AQUA. PROVIDE QUANTITIES AND LENGTHS AS SCHEDULED THIS SHEET. FOR FIBER PATCH CORDS CONNECTING OWNER FURNISHED EQUIPMENT, PROVIDE 'SC'X OTHER END AS REQUIRED TO SUIT EQUIPMENT. VERIFY END CONNECTORS REQUIRED PRIOR TO PURCHASING, SEE "FIBER PATCH CORD NOTE THIS SHEET".
- $\langle$  8  $\rangle$  EQUIPMENT ROOM DATA PATCH CORDS, FACTORY TERMINATED AND TESTED CATEGORY-6 (MINIMUM) FOUR PAIR 100-OHM UNSHEILDED TWISTED PAIR (UTP) CABLE WITH 24 GAGE STRANDED COPPER CONDUCTORS, COLOR BLACK WITH MATCHING FACTORY BOOT EACH END. PROVIDE WITH 8-PIN MODULAR PLUG ON BOTH ENDS AND TIA 568A PIN/PAIR ASSIGNMENTS, MOLEX PCD-0020x-BK (NO EQUAL). FIELD BUILT OR ASSEMBLED PATCH CORDS WILL NOT BE ACCEPTED. PROVIDE PATCH CORD QUANTITIES AND LENGTHS AS SCHEDULED THIS SHEET. PROVIDE DOCUMENTATION OF FACTORY TESTING CATEGORY-6 REQUIREMENTS AT SUBMITTAL.
- (8A) WIRELESS ACCESS POINT (WAP) PATCH CORDS, FACTORY TERMINATED AND TESTED CATEGORY-6 (MINIMUM) FOUR PAIR 100-OHM UNSHEILDED TWISTED PAIR (UTP) CABLE WITH 24 GAGE STRANDED COPPER CONDUCTORS, COLOR WHITE WITH MATCHING FACTORY BOOT EACH END. PROVIDE WITH 8-PIN MODULAR PLUG ON BOTH ENDS AND TIA 568A PIN/PAIR ASSIGNMENTS, MOLEX PCD-0020x-OW (NO EQUAL). FIELD BUILT OR ASSEMBLED PATCH CORDS WILL NOT BE ACCEPTED. PROVIDE PATCH CORD QUANTITIES AND LENGTHS AS SCHEDULED THIS SHEET. PROVIDE DOCUMENTATION OF FACTORY TESTING CATEGORY-6 REQUIREMENTS AT SUBMITTAL.
- (8B) IP SECURITY CAMERA PATCH CORDS, FACTORY TERMINATED AND TESTED CATEGORY-6 (MINIMUM) FOUR PAIR 100-OHM UNSHEILDED TWISTED PAIR (UTP) CABLE WITH 24 GAGE STRANDED COPPER CONDUCTORS, COLOR GREEN WITH MATCHING FACTORY BOOT EACH END. PROVIDE WITH 8-PIN MODULAR PLUG ON BOTH ENDS AND TIA 568A PIN/PAIR ASSIGNMENTS, MOLEX PCD-0020x-OJ (NO EQUAL). FIELD BUILT OR ASSEMBLED PATCH CORDS WILL NOT BE ACCEPTED. PROVIDE PATCH CORD QUANTITIES AND LENGTHS AS SCHEDULED THIS SHEET. PROVIDE DOCUMENTATION OF FACTORY TESTING CATEGORY-6 REQUIREMENTS AT SUBMITTAL.
- $\langle$  9 angle TIA CATEGORY 6 HORIZONTAL PATCH PANEL, 48 PORT, TIA 568A PINOUT, MOLEX POWERCAT 6 PID-00147. PROVIDE WITH FACTORY PLASTIC LABEL HOLDERS, DESIGNATION LABELS, REAR CABLE MANAGERS, AND MOUNTING HARDWARE. PROVIDE COLORED SNAP-IN BLANK TAB (MOLEX CSP-00021-XX) FOR EACH MODULAR JACK, COLOR TO MATCH CORRESPONDING JACK IN COMMUNICATIONS OUTLET (CO).
- (9A) TIA CATEGORY 6 WAP/CAM HORIZONTAL PATCH PANEL, 48 PORT, TIA 568A PINOUT, MOLEX POWERCAT 6 PID-00147. PROVIDE WITH FACTORY PLASTIC LABEL HOLDERS, DESIGNATION LABELS, REAR CABLE MANAGERS, AND MOUNTING HARDWARE. PROVIDE COLORED SNAP-IN BLANK TAB (MOLEX CSP-00021-XX) FOR EACH MODULAR JACK, COLOR TO MATCH CORRESPONDING JACK IN COMMUNICATIONS OUTLET (CO).
- (10) TIA CATEGORY 6 HORIZONTAL CABLING, 4 PAIR UTP, 23 GAGE SOLID COPPER CONDUCTORS. MAXIMUM INSTALLED LENGTH 90 METERS (295'). PROVIDE DOCUMENTATION OF CURRENT UL CERTIFICATION WITH SUBMITTALS, PROVIDE WITH CMR (RISER) JACKET COLOR GREY. SEE SCHEDULE THIS SHEET FOR APPROVED
- $\langle$ 11angle Type "D2" COMMUNICATIONS OUTLET (CO) WITH TWO (2) CATEGORY 6 8-PIN MODULAR JACKS. SEE PLANS AND DETAILS.
- (11A) TYPE "WAP" COMMUNICATIONS OUTLET (CO) WITH TWO (2) CATEGORY 6 8-PIN MODULAR JACKS. SEE PLANS AND DETAILS. PROVIDE 'WAP' CO, 'WAP' PATCH PANEL AND EIGHT 'WAP' PATCH CORDS UNDER BASE BID FOR THREE 'WAP' LOCATIONS WHERE INDICATED ON PLAN.
- $\langle 12 
  angle$  WORKSTATION PATCH CORDS, FACTORY TERMINATED AND TESTED CATEGORY—6 (MINIMUM) FOUR PAIR 100-OHM UNSHEILDED TWISTED PAIR (UTP) CABLE WITH 23 GAGE STRANDED COPPER CONDUCTORS, COLOR BLACK WITH MATCHING FACTORY BOOT EACH END. PROVIDE WITH 8-PIN MODULAR PLUG ON BOTH ENDS AND TIA 568A PIN/PAIR ASSIGNMENTS, MOLEX PCD-0020x-BK (NO EQUAL). FIELD BUILT OR ASSEMBLED PATCH CORDS WILL NOT BE ACCEPTED. PROVIDE PATCH CORD QUANTITIES AND LENGTHS AS SCHEDULED THIS SHEET. PROVIDE DOCUMENTATION OF FACTORY TESTING CATEGORY-6 REQUIREMENTS AT SUBMITTAL.



DATA PATCH CORD SCHEDULE \_ENGTH/QT'Y | LENGTH/QT'Y | LENGTH/QT'Y | LENGTH/QT'Y | LENGTH/QT'Y | LENGTH/QT'Y -- / ---- / ---- / -- | -- / --

#### DATA PATCH CORD SCHEDULE NOTES:

- 1) FURNISH PATCH CORDS TO OWNER LOOSE PRIOR TO INSTALLATION. VERIFY ALL QUANTITIES AND LENGTHS WITH OWNER'S PROJECT MANAGER AND PROVIDE SIGNED COPY OF RECEIPT TO ENGINEER AT PROJECT SUBSTANTIAL COMPLETION.
- 2) SEE SPECIFICATIONS FOR DETAILED REQUIREMENTS FOR PATCH CORD DELIVERY AND INSTALLATION. ALL PATCH CORDS SHALL BE NEATLY ROUTED, BUNDLED AND SECURED AT 6" ON CENTER WITH BLACK VELCRO STRAPS. <u>BUNDLE DATA PATCH CORDS SEPARATELY</u>, <u>DO</u> NOT BUNDLE WITH VOICE PATCH CORDS. BUNDLE FIBER OPTIC PATCH CORDS SEPARATELY FROM COPPER PATCH CORDS.
- 3) PROVIDE EXCEL SPREADSHEET IDENTIFYING CONNECTIONS MADE, <u>SEE SPECIFICATIONS</u>.



## DATA SYSTEM SINGLE LINE CONFIGURATION DIAGRAM

**NOTE** RUN ALL CABLES CONTINUOUS BETWEEN TERMINATION POINTS NDICATED WITH NO INTERMEDIATE SLICES OR TERMINATIONS.

#### TV SYSTEM SIGNAL LEVEL TUNING NOTES:

- 1) CONTACT OWNER'S PROJECT MANAGER PRIOR TO COMMENCING SYSTEM TUNING TO COORDINATE TUNING PLAN.
- 2) THE CONTRACTOR SHALL PROVIDE A SIGNAL LEVEL METER FOR ALL SYSTEM TESTING. THE CONTRACTOR SHALL BE THOROUGHLY TRAINED IN THE USE OF THE METER. METER SHALL BE EITHER A TEKTRONICS RFM 150 SIGNAL SCOUT OR A SADELCO DISPLAYMAX 800CLI.
- **3)** THE CONTRACTOR SHALL TUNE THE SYSTEM TO PROVIDE TARGET SIGNAL LEVEL OF +5 dB AT EACH OUTLET ACROSS THE FULL RANGE OF SYSTEM DESIGN FREQUENCIES (CHANNEL 2 thru CHANNEL 152) WITH AN ACCEPTABLE RANGE OF +3 TO +10 dB.
- **4)** <u>AMPLIFIER TUNING:</u> (THESE SETTINGS ARE BASED ON CALCULATIONS AND ARE PROVIDED FOR INFORMATIONAL PURPOSES ONLY. THE CONTRACTOR SHALL DETERMINE FINAL SETTINGS BY MEANS OF THOROUGH FIELD TESTING).
- MAIN DISTRIBUTION AMPLIFIERS: THE CONTRACTOR SHALL TUNE THE MAIN DISTRIBUTION AMPLIFIERS AS FOLLOWS:
- GAIN ADJUSTMENT: SET GAIN CONTROL TO ACHIEVE AMPLIFIER OUTPUT SIGNAL LEVEL AS INDICATED ON "TV DISTRIBUTION AMPLIFIER SCHEDULE."
- SLOPE ADJUSTMENT: SET SLOPE CONTROL ACHIEVE AMPLIFIER OUTPUT SIGNAL LEVEL AS INDICATED ON "TV DISTRIBUTION AMPLIFIER SCHEDULE."
- 5) WHERE ADDITIONAL SIGNAL ATTENTUATION IS REQUIRED TO ACHIEVE SIGNAL STRENGTH IN THE ACCEPTABLE RANGE OF +3 TO +10 dB AT OUTLETS, PROVIDE TONER 'FAM' FIXED IN-LINE ATTENUATORS ATTACHED DIRECTLY TO ASSOCIATED SPLITTER OR TAP OUTPUT PORT AS REQUIRED TO REDUCE SIGNAL LEVEL TO WITHIN A RANGE OF +3 TO +10 dB AT EACH OUTLET ACROSS THE FULL RANGE OF SYSTEM DESIGN FREQUENCIES. THESE REQUIREMENTS ARE BASED ON CALCULATIONS AND ARE PROVIDED FOR INFORMATIONAL PURPOSES ONLY. THE CONTRACTOR SHALL DETERMINE ACTUAL REQUIREMENTS FOR ATTENUATORS BY MEANS OF THOROUGH FIELD TESTING.
- 6) THE CONTRACTOR SHALL CONNECT A STANDARD TV RECEIVER TO EACH OUTLET AND OBSERVE PICTURE QUALITY. NO VISIBLE COMPONENTS OF CROSS CHANNEL INTER-MODULATION (WINDSHIELD WIPER EFFECTS), GHOSTING OR BEAT INTERFERENCE SHALL APPEAR IN THE SCREEN OF A RECEIVER TUNED TO NORMAL SIGNALS ACROSS THE ENTIRE RANGE OF SYSTEM DESIGN FREQUENCIES. VERIFY PICTURE QUALITY 'OK' AND COMPLETE ALL FIELDS ON "TV OUTLET TUNING LOG FORM".

#### TV SYSTEM CABLE **DISTRIBUTION GENERAL NOTES:**

- 1) REFER TO FLOOR PLANS FOR ACTUAL DEVICE COUNTS.
- 2) CABLE SHALL BE CONTINUOUS BETWEEN DEVICES. INTERMEDIATE SPLICES OR COUPLINGS ARE

<u>APPLICATION</u> <u>MANUFACTURER</u>

COMMSCOPE

GENERAL

HITACHI

SUPERIOR ESSEX

MOHAWK

MOLEX

<u>Part Number</u>

ULTRAPIPE 6E 4662904/10

6500 PREMIUM 7133933

SUPRA 660 30022-GA3

NEXTGAIN 54-272-3A

GIGALAN 6E+ M57422

POWERCAT 6 ENHANCED CAA-0183R-08

UL JACKET JACKET COLOR

GREY

GREY

GREY

GREY

GREY

GREY

CMR

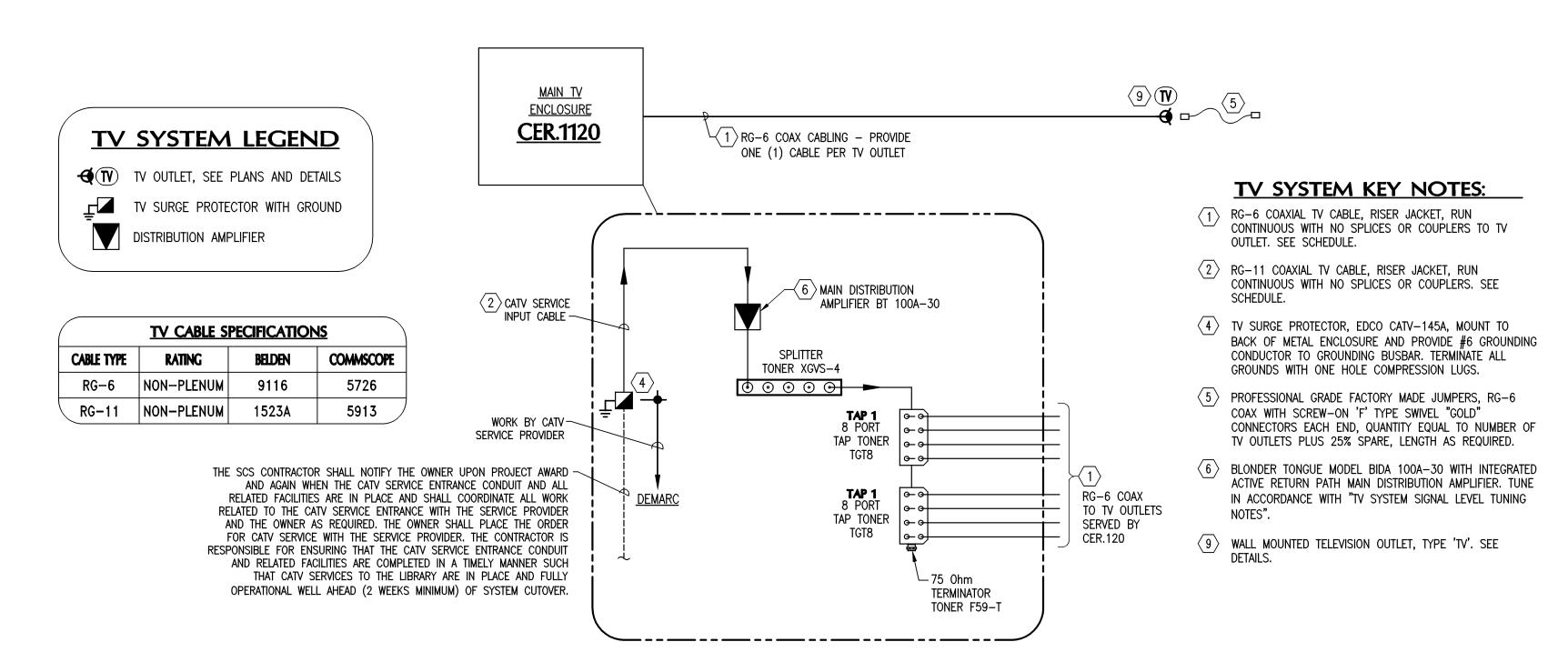
CMR

CMR

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CMR

- 3) ALL RG-6 AND RG-11 COAXIAL CONNECTORS SHALL BE 'F' TYPE, AUGAT/THOMAS & BETTS/TONER 'LRC' SNAP-N-SEAL. <u>ALL COAXIAL CONNECTIONS SHALL BE MADE BY TRAINED</u> TECHNICIANS WITH PROFESSIONAL GRADE TOOLS SPECIFICALLY MANUFACTURED FOR EACH CONNECTOR TYPE.
- I) PROVIDE ONLY ENOUGH SLACK IN TV RG-6 AND RG-11 CABLES TO RE-CONNECTORIZE CABLES THREE TIMES. DO NOT PROVIDE CABLE SLACK LOOPS IN TV CABLES AS IS REQUIRED FOR VOICE AND DATA CABLES
- **5)** Provide toner F59—T 75 Ohm Terminators at Each Unused Port of All Splitters, TAPS AND OUTLETS.
- 6) LABEL EACH RG-11 COAXIAL TRUNK CABLE AT EACH END INDICATING ORIGINATION AND DESTINATION. LABEL EACH RG-6 COAXIAL OUTLET CABLE AT EACH END INDICATING OUTLET INDENTIFICATION (SEE "TV OUTLET IDENTIFICATION NOMENCLATURE"). LABELS SHALL BE LOCATED WITHIN 4" OF CABLE END CONNECTIONS AND SHALL BE READILY VISIBLE FOR TROUBLESHOOTING. LABELS SHALL BE ADHESIVE MYLAR WRAP-AROUND WITH LASER PRINTED TEXT. LABEL TAPS AND SPLITTERS WITH NUMBERS AS INDICATED ON SINGLE LINE DIAGRAM.
- ) TEST EACH CABLE FOR CONTINUITY AND ATTENUATION. CHECK EACH CABLE FOR CORRECT TERMINATION - REMAKE ALL CONNECTORS THAT ARE NOT PROPERLY TERMINATED. VERIFY PROPER GROUNDING AT SERVICE ENTRANCE AND AT ALL SURGE SUPPRESSION DEVICES.
- ) MAINTAIN EXISTING TV SYSTEM IN FULL SERVICE UNTIL NEW SYSTEM IS COMPLETE AND FULLY FUNCTIONAL. PROVIDE ALL TEMPORARY HOOK-UPS AS REQUIRED DURING CUTOVER TO NEW



TV SYSTEM CABLE DISTRIBUTION SINGLE LINE CONFIGURATION DIAGRAM

SEE PLANS FOR EXACT OUTLET QUANITY

NOTE RUN ALL CABLES CONTINUOUS BETWEEN TERMINATION POINTS INDICATED WITH NO INTERMEDIATE SLICES OR TERMINATIONS



PROJECT NO:

DATE: 06.01.2011

FILE NO:

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authorization AA0003597

DIAGRAM

CONFIGURATION

SINGLE

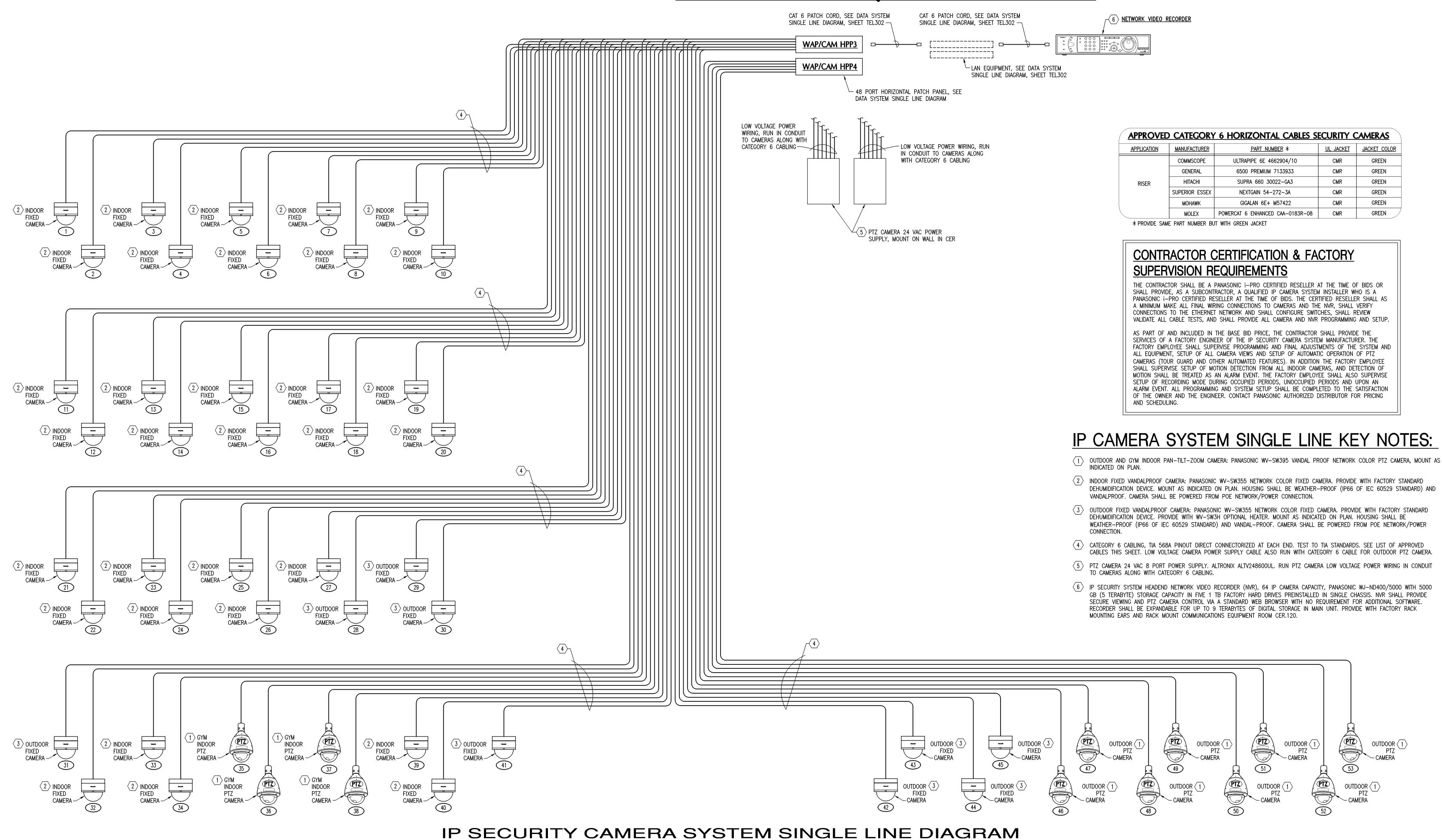
SYSTEM

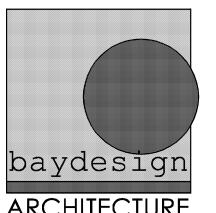
SHEET TITLE:
DATA/TV

suite 200

# COMMUNICATIONS EQUIPMENT ROOM CER.120

RUN ALL CABLES CONTINUOUS BETWEEN TERMINATION POINTS INDICATED WITH NO INTERMEDIATE SLICES OR TERMINATIONS.





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bay design

associates architects, pl florida certificate of authorization AA0003597

SHEET TITLE:
IP SECURITY CAMERA SYSTEM SINGLE LINE DIAGRAM

PROJECT NO: DATE: 06.01.2011

410 W. Nine Mile Road, Suite A Pensacola, Florida 32534 Florida Certificate of Authorization #9308 Phone: (850) 469-0405 Fax: (850) 432-0905 Premier Project #10054

#### **SINGLE LINE DIAGRAM KEY NOTES:**

· <u>PA HEADEND</u>: INTERCOM/PA SYSTEM HEADEND CHASSIS, VALCOM 'MULTIPATH' 'VCCRK' 9 POSITION CARD CAGE WITH TWO (2) 'V—TCM' 4 STATION TALKBACK SPEAKER CARDS (ONE SPARE LOOSE) AND TWO (2) 'V-STX' 24 ZONE ONE-WAY SPEAKER CARDS (ONE SPARE LOOSE) AND RACK MOUNT IN CER AND GROUND CHASSIS AND CARDS IN STRICT COMPLIANCE WITH MANUFACTURER'S PRINTED INSTALLATION INSTRUCTIONS.

USE ALL FACTORY CABLES PROVIDED BY MANUFACTURER INCLUDING BUT NOT LIMITED TO BACKPLANE CABLES AND THE 16 GAGE TWISTED PAIR POWER HARNESSES PROVIDED TO CONNECT THE 24 VDC POWER SUPPLIES TO THE POWER CONNECTIONS WITHIN THE HEADEND CHASSIS. GROUND CHASSIS TO CER MAIN GROUNDING BUSBAR WITH NO. 6 AWG INSULATED GREEN COPPER GROUNDING CONDUCTOR. BOND AT BUSBAR END USING 2-HOLE HEAVY DUTY COMPRESSION CONNECTOR, AND AT CHASSIS FACTORY GROUND CONNECTION USING HEAVY DUUTY COMPRESSION CONNECTOR TO SUIT.

CONTRACTOR PURCHASE HEADEND AS STANDARD VALCOM 'MULTIPATH' BASE PACKAGE WITH ADDITIONAL CARDS AS INDICATED (INCLUDING SPARES AS IF INSTALLED). CONTRACTOR VERIFY THAT HEADEND INCLUDES ALL REQUIRED CARDS AND CABLES FOR A COMPLETE SYSTEM INCLUDING THE 'V-CPU4' CARD, THE 'VC40R-xx' RIBBON CABLES, THE 'V-MPT' PROGRAMMING TOOL AND CABLE, AND ALL OTHER COMPONENTS REQUIRED FOR A COMPLETE AND FULL OPERATIONAL SYSTEM WHETHER SPECIFICALLY CALLED OUT OR NOT, THE OWNER SHALL BE ABLE TO INSTALL THE PROVIDED SPARE EXPANSION CARDS AT ANY TIME WITHOUT PURCHASING ADDITIONAL BACKPLANE CABLES

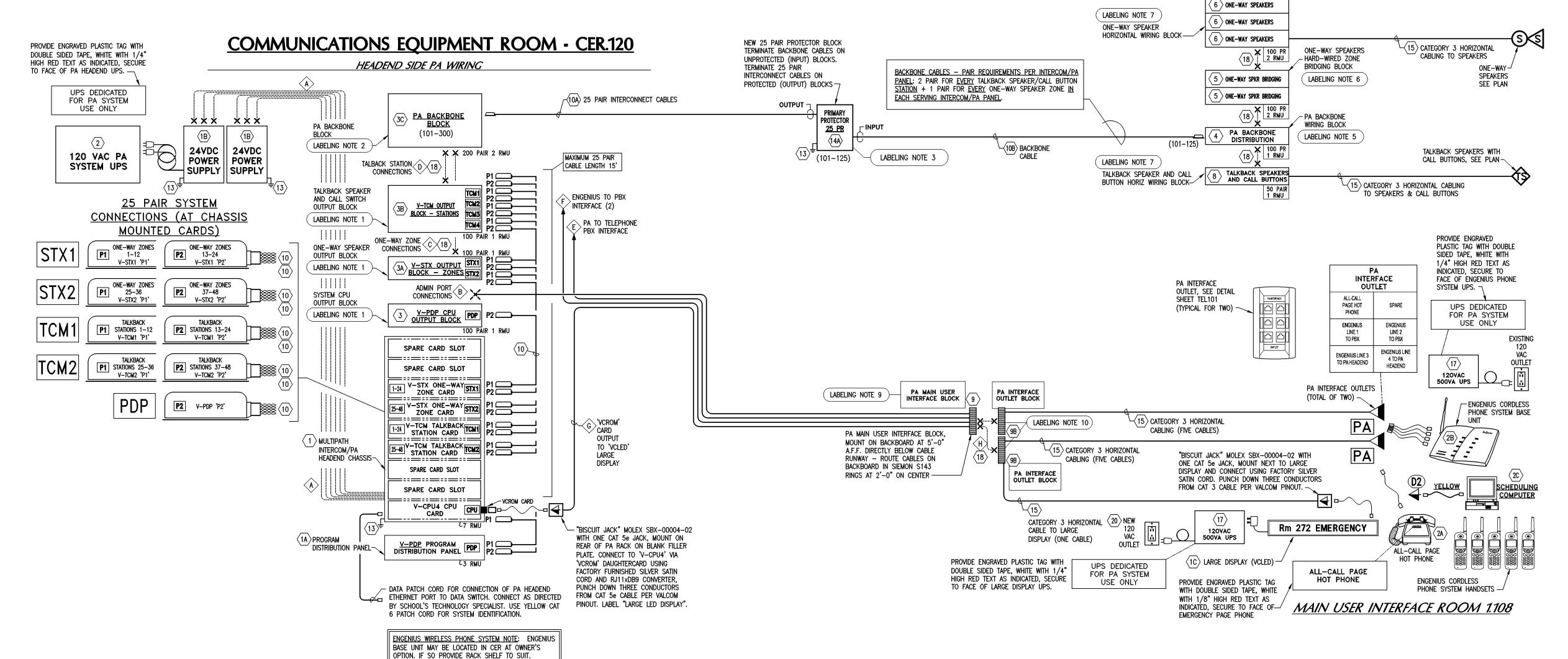
PROVIDE FULL SETUP AND PROGRAMMING OF ALL AVAILABLE FEATURES (FOR WHICH HARDWARE IS SPECIFIED) TO THE SATISFACTION OF THE OWNER'S PROJECT MANAGER. TIE 2 ADMIN PORTS TO TELEPHONE SYSTEM AND 2 ADMIN PORTS TO ENGENIUS WIRELESS TELEPHONE

- · <u>Program distribution panel</u>: intercom/pa system program distribution panel, valcom 'multipath' 'V-pdp'. Rack mount in CER GROUND CHASSIS AND CARDS IN STRICT COMPLIANCE WITH MANUFACTURER'S PRINTED INSTALLATION INSTRUCTIONS, PROVIDE FULL SETUP AND PROGRAMMING OF ALL AVAILABLE FEATURES (FOR WHICH HARDWARE IS SPECIFIED) TO THE SATISFACTION OF THE OWNER'S
- (1B) 24 VDC HEADEND POWER SUPPLIES: PROVIDE TWO (2) VALCOM 'MULTIPATH' 'VP-6124' 6 AMP 24VDC POWER SUPPLIES (THREE DUTPUTS 2 AMPS EACH PER POWER SUPPLY). MOUNT ON HEAVY DUTY ALUMINUM 7 RMS (12.25" HIGH) BLANK RACK PLATE ON REAR OF RACK POSITIONED TO MAINTAIN DISTANCE TO CONNECTIONS ON PA HEADEND TO BETWEEN 3'-8'. USE ONLY MANUFACTURER PROVIDED WIRING HARNESS TO CONNECT TO PA HEADEND. DISTRIBUTE LOADS EVENLY ACROSS OUTPUTS. GROUND EACH POWER SUPPL' separately to pa headend chassis with no. 6 awg insulated green copper grounding conductor, bond at each end using HEAVY DUTY COMPRESSION CONNECTOR DESIGNED FOR FASTENER PROVIDED BY MANUFACTURER AT EACH END. IN ADDITION, GROUND EACH POWER SUPPLY SEPARATELY TO CER MAIN GROUNDING BUSBAR WITH NO. 6 AWG INSULATED GREEN COPPER GROUNDING CONDUCTOR, BOND AT BUSBAR END USING 2-HOLE HEAVY DUTY COMPRESSION CONNECTOR. DO NOT USE FOR ONE-WAY SPEAKER'S
- LARGE DISPLAY: VALCOM 'MULTIPATH' 'VCLED' LARGE LED WALL MOUNT DISPLAY. MOUNT IN HIGH VISIBILITY LOCATION AT MAIN USER INTERFACE. SEE PLAN. SEE SINGLE LINE DIAGRAM FOR FACTORY FURNISHED CORDS AND ADAPTER.
- SCSC PROVIDE: AMERICAN POWER CONVERSION 2200 VA UNINTERRUPTIBLE POWER SUPPLY (UPS) SUA2200RM2U.
- > <u>PA ALL-CALL PAGE HOT PHONE</u>: ANALOG SINGLE LINE SET WITH NO KEYPAD, COLOR RED, DESK STYLE, VIKING MODEL K-1900D-2. PROGRAM TO AUTO-DIAL PA SYSTEM ALL-CALL OVERRIDE CODE (NOT EMERGENCY) WHENEVER HANDSET IS LIFTED. PROVIDE ENGRAVED
- ENGENIUS WIRELESS PHONE SYSTEM: PROVIDE ONE DURAFON 4X BASE UNIT, FIVE AC ADAPTERS, FIVE DURAFON 4X-HC CORDLESS HANDSETS WITH FIVE DURAPOUCH-EX PROTECTIVE CASES, FIVE RAPID CHARGING CRADLES, FIVE DURAFON-HSA1 OPTIMAL COVERAGE HANDSET ANTENNAS (IN ADDITION TO STANDARD LOW PROFILE ANTENNA PROVIDED WITH EACH HANDSET), FIVE SN-ULTRA-HD2 HEADSETS AND FIVE DURAFON-BA SPARE BATTERY PACKS. PROVIDE SN-ULTRA-AK20 OUTDOOR ANTENNA WITH 60' CABLE.
- > SCHEDULING COMPUTER, OWNER FURNISHED. UTILIZE SIGN—IN COMPUTER OR OTHER COMPUTER AS DIRECTED BY OWNER. CONNECT TO ETHERNET LAN - PLUG INTO STANDARD DATA OUTLET IN ANY LOCATION AS DIRECTED BY OWNER. INSTALL 'MULTIPATH' FACTORY SOFTWARE AND PROVIDE FULL PROGRAMMING AND CONFIGURATION. **HEADEND SIDE WIRING BLOCKS:**
- · <u>100 pair V-PDP/CPU OUTPUT BLOCK</u>: SIEMON S110DAT-100RCT 100 PAIR PRE-WIRED 110 RACK MOUNT PANEL, 1 RMS WITH 5 PAIR CONNECTING BLOCKS AND TWISTED PAIR FACTORY WIRING TO FOUR 50 PIN FEMALE 'AMPHENOL' CONNECTORS ON BACKSIDE FOR TERMINATION OF 25 PAIR CONNECTORIZED CABLES FROM INTERCOM/PA SYSTEM HEADEND, PROVIDE WITH TWO S110-CVR-50-00 CLEAR
- (3A) 100 pair V-STX OUTPUT BLOCK ZONES: SIEMON S110DAT-10ORCT 100 PAIR PRE-WIRED 110 RACK MOUNT PANEL, 1 RMS WITH 5 PAIR CONNECTING BLOCKS AND TWISTED PAIR FACTORY WIRING TO FOUR 50 PIN FEMALE 'AMPHENOL' CONNECTORS ON BACKSIDE FOR TERMINATION OF 25 PAIR CONNECTORIZED CABLES FROM INTERCOM/PA SYSTEM HEADEND, PROVIDE WITH TWO S110-CVR-50-00 CLEAR 50 PAIR COVERS - SECURE ENGRAVED TAG TYPE LABELS TO RIGHT HAND COVER. WILL SERVE UP TO TWO 'V-STX' CARDS (TOTAL OF
- (3B) 100 pair V-TCM OUTPUT BLOCK STATIONS: SIEMON S110DAT-100RCT 100 PAIR PRE-WIRED 110 RACK MOUNT PANEL, 1 RMS WITH 5 PAIR CONNECTING BLOCKS AND TWISTED PAIR FACTORY WIRING TO FOUR 50 PIN FEMALE 'AMPHENOL' CONNECTORS ON BACKSIDE FOR TERMINATION OF 25 PAIR CONNECTORIZED CABLES FROM INTERCOM/PA SYSTEM HEADEND, PROVIDE WITH TWO S110-CVR-50-00 CLEAR 50 PAIR COVERS - SECURE ENGRAVED TAG TYPE LABELS TO RIGHT HAND COVER. WILL SERVE UP TO TWO 'V-TCM' CARDS (TOTAL OF 96 TALKBACK SPEAKER/CALLBUTTON STATIONS). (30) 200 pair PA BACKBONE BLOCK: S110DAT-200RCT 200 PAIR PRE-WIRED 110 RACK MOUNT PANEL, 2 RMS WITH 5 PAIR CONNECTING
- 25 PAIR CONNECTORIZED CABLES FROM INTERCOM/PA SYSTEM HEADEND. PROVIDE WITH FOUR \$110-CVR-50-00 CLEAR 50 PAIR COVERS - SECURE ENGRAVED TAG TYPE LABELS TO RIGHT HAND COVER. 4 \ 100 pair PA BACKBONE DISTRIBUTION BLOCK: SIEMON S110DAT-100RCT PRE-WIRED 110 RACK MOUNT PANEL, 1 RMS WITH 5 PAIR

BLOCKS AND TWISTED PAIR FACTORY WIRINGAPC TO EIGHT 50 PIN FEMALE 'AMPHENOL' CONNECTORS ON BACKSIDE FOR TERMINATION OF

- CONNECTING BLOCKS AND <u>TWISTED PAIR FACTORY WIRING</u> TO FOUR 50 PIN FEMALE 'AMPHENOL' CONNECTORS ON BACKSIDE FOR TERMINATION OF 25 PAIR CONNECTORIZED CABLES. PROVIDE WITH TWO S110-CVR-50-00 CLEAR 50 PAIR COVERS - SECURE ENGRAVED TAG TYPE LABELS TO RIGHT HAND COVER. (5) 100 pair ONE-WAY SPEAKERS HARD-WIRED ZONE BRIDGING BLOCK: SIEMON HC110T-50 50 PAIR BRIDGING DISCONNECT 110 BLOCK,
- PROVIDE TOTAL OF TWO BLOCKS AND MOUNT ON 2 RMS 110 RACK MOUNT PANEL BACKPLATE (PURCHASE SIEMON S110DA1-200RFT PANEL AND REMOVE BLOCKS THEN MOUNT TWO DISCONNECT BLOCKS TO BACKPLATE USING FACTORY SCREWS) FOR TOTAL OF 100 PAIRS - PROVIDE ONE SUCH ASSEMBLY FOR MULTIPLE SPEAKER AUDIO CONNECTION POINTS FROM HARD-WIRED ONE-WAY SPEAKER ZONES. PROVIDE WITH TWO S110-CVR-100-00 CLEAR 100 PAIR COVERS - SECURE ENGRAVED TAG TYPE LABELS TO RIGHT HAND COVER.
- 6 100 pair ONE-WAY SPEAKERS HORIZONTAL WIRING BLOCK: SIEMON S110TB1-100RFT 100 PAIR DISCONNECT 110 RACK MOUNT PANEL, 2 RMS. PROVIDE EACH BLOCK WITH TWO S110-CVR-100-00 CLEAR 100 PAIR COVERS SECURE ENGRAVED TAG TYPE LABELS TO RIGHT HAND COVER. WILL SERVE UP TO 24 ONE-WAY SPEAKER 4 PAIR HORIZONTAL WIRING CONNECTIONS.
- > 100 pair ONE-WAY SPEAKERS POWER BLOCK: SIEMON HC110T-50 50 PAIR BRIDGING DISCONNECT 110 BLOCK, PROVIDE TOTAL OF TWO BLOCKS AND MOUNT ON 2 RMS 110 RACK MOUNT PANEL BACKPLATE (PURCHASE SIEMON S110DA1-200RFT PANEL AND REMOVE BLOCKS THEN MOUNT TWO DISCONNECT BLOCKS TO BACKPLATE USING FACTORY SCREWS) FOR TOTAL OF 100 PAIRS - PROVIDE ONE SUCH ASSEMBLY FOR TOTAL OF 96 ONE PAIR SPEAKER POWER CONNECTION POINTS. PROVIDE WITH TWO S110-CVR-100-00 CLEAR 100 PAIR COVERS - SECURE ENGRAVED TAG TYPE LABELS TO RIGHT HAND COVER.
- 50 pair TALKBACK SPEAKERS HORIZONTAL WIRING BLOCK: SIEMON S110TB1-50RFT 50 PAIR DISCONNECT 110 RACK MOUNT PANEL, 1 RMS. PROVIDE EACH BLOCK WITH TWO S110-CVR-50-00 CLEAR 50 PAIR COVERS SECURE ENGRAVED TAG TYPE LABELS TO RIGHT HAND COVER. WILL SERVE UP TO 12 TALKBACK SPEAKER/CALLBUTTON STATION 4 PAIR HORIZONTAL WIRING CONNECTIONS.
- 9 PA MAIN USER INTERFACE BLOCK: 66 BLOCK SIEMON S66M1-50 WITH 89D BRACKET. PUNCH CROSS-CONNECTS FROM PA INTERFACE OUTLET BLOCKS DOWN ON ROW 'D'. PUNCH CROSS-CONNECTS AND CAT 5e CABLES FROM PA HEADEND SIDE DOWN ROW'A'. MOUNT ON
- (9B) PA INTERFACE OUTLET BLOCK: 66 BLOCK, SIEMON S66M1-50 WITH 89D BRACKET. PROVIDE BLOCK WITH TWO ORGANIZER RINGS FOR ROUTING CROSS-CONNECTS, SIEMON S606P. PUNCH FIVE CAT 5 CABLES FROM 'PA INTERFACE OUTLET' AND ONE CAT 5 CABLE FROM LARGE DISPLAY OUTLET DOWN ON ROW 'D'. PUNCH CROSS-CONNECTS DOWN ON ROW 'A' AND PROVIDE SS BRIDGE CLIPS TO COMPLETE
- (10) ESSEX OR GENERAL CABLE 1010 25 PAIR CATEGORY 3 CABLE, CMR JACKET, COLOR BEIGE, CUSTOM LENGTH, FIELD CONNECTORIZE BOTH ENDS WITH 50-PIN TELCO CONNECTOR WITH GOLD PLATED CONTACTS, STANDARD TELCO PINOUT, FOR CONNECTION TO PRE-WIRED BLOCKS, GENDER TO SUIT BLOCK CONNECTOR. MAXIMUM LENGTH 15 FEET.
- ⟨10Å⟩ ESSEX OR GENERAL CABLE 1010 25 PAIR CATEGORY 3 CABLE, CMR JACKET, COLOR BEIGE, CUSTOM LENGTH, PUNCH ONE END DOWN ON PROTECTOR BLOCK PROTECTED (OUTPUT) 110 BLOCK. FIELD CONNECTORIZE OTHER END WITH 50-PIN TELCO CONNECTOR WITH GOLD PLATED CONTACTS, STANDARD TELCO PINOUT, FOR CONNECTION TO PRE-WIRED BLOCK, GENDER TO SUIT BLOCK CONNECTOR.
- (10B) ESSEX OR GENERAL CABLE 1010 25 PAIR CATEGORY 3 CABLE, CMR JACKET, COLOR BEIGE, CUSTOM LENGTH, PUNCH ONE END DOWN ON PROTECTOR BLOCK UNPROTECTED (INPUT) 110 BLOCK. FIELD CONNECTORIZE OTHER END WITH 50-PIN TELCO CONNECTOR WITH GOLD PLATED CONTACTS, STANDARD TELCO PINOUT, FOR CONNECTION TO PRE-WIRED BLOCK, GENDER TO SUIT BLOCK CONNECTOR.
- (13) SOLID COPPER INSULATED GROUNDING CONDUCTOR, #6 AWG, GREEN. BOND TO GROUNDING BUSBAR IN CER.
- √(4A) PRIMARY PROTECTOR, AVAYA 489ACA1-25 110 STYLE 25 PAIR PROTECTOR BLOCK WITH 110 BLOCK INPUT AND 110 BLOCK OUTPUT. PROVIDE WITH 25 SOLID STATE PROTECTOR UNITS, CIRCA 3B3S-30 (RED) FOR SPEAKER CIRCUITS AND CALL BUTTON CIRCUITS.
- (15) TIA CATEGORY 3 CABLE, 4 PAIR UTP, 24 GAGE SOLID COPPER CONDUCTORS. ALL CABLE MUST HAVE THE WORDS 'UL VERIFIED CATEGORY 3' STAMPED ON THE OUTER INSULATION JACKET. PROVIDE DOCUMENTATION OF CURRENT UL CERTIFICATION WITH SUBMITTALS. PROVIDE WITH CMR (RISER) JACKET, COLOR YELLOW. RUN CONTINUOUS IN CONDUIT TO SERVING CER. TERMINATE DIRECTLY TO SPEAKER SCREW TERMINALS WHERE PROVIDED OR TO SPEAKER WIRE LEADS WITH 3M 'SCOTCHLOCK' '211' CONNECTORS.
- (16) ONE-WAY SPEAKERS POWER SUPPLY, VALCOM 'MULTIPATH' 'VP-6124' 6 AMP 24VDC POWER SUPPLY (THREE OUTPUTS AT 2 AMPS +120 VALCOM POWER UNITS). BACKBOARD MOUNT AND PROVIDE ALL INTERCONNECTING WIRING AS REQUIRED. IN CER RACK MOUNT ON HEAVY DUTY ALUMINUM 4 RMS (7" HIGH) BLANK RACK PLATE.
- 17 500 VA 120 VAC UPS, AMERICAN POWER CONVERSION MODEL 'BE550G' "BACKUP-UPS ES". BACKBOARD MOUNT NEXT TO EQUIPMENT SERVED. PROVIDE ENGRAVED PLASTIC SIGN WHITE BACKGROUND 1/4" LETTERS WITH TEXT "UPS DEDICATED FOR PA SYSTEM USE ONLY".
- (18) TWISTED PAIR CROSS-CONNECTS, 22 GAGE COLOR WHITE/BLUE FOR SPEAKER AUDIO CIRCUITS (ESSEX 12-003-13), 22 GAGE COLOR WHITE/BLACK FOR POWER CIRCUITS (ESSEX 12-005-13), 24 GAGE COLOR WHITE/GREEN FOR CALL SWITCH CIRCUITS.
- > <u>BY ELECTRICAL CONTRACTOR:</u> 120 VAC DUPLEX SURGE SUPPRESSION POWER RECEPTACLE ON DEDICATED 20 AMP CIRCUIT. MOUNT WITHIN 8" OF 'VCLED' LARGE LED DISPLAY ON SAME SIDE AS POWER CONNECTION. PROVIDE POWER RATED SURFACE RACEWAY, STANDARD DEPTH BOX AND FITTINGS TO MATCH 'CO' SURFACE RACEWAY. EXTEND 1/2" FLEXIBLE METALLIC CONDUIT FROM BOX UP THRU RACEWAY TO JUNCTION BOX ABOVE CEILING. POWER RECEPTACLE SHALL BE HUBBELL 536S RECEPTACLE WITH STAINLESS STEEL FACEPLATE. RUN CONDUIT & CONDUCTORS (2#12, #12G, 1/2"C.) TO NEAREST POWER PANEL WITH SPACE AND PROVIDE CIRCUIT

							INTERC	COM/P	A SPEA	KERS and	ZONE	s sch	EDI	JLE						
SERVING CER	NUMBER OF ONE-WAY SPEAKERS PER ZONE													QT'Y OF ONE-WAY	TOTAL NUMBER OF	TOTAL NUMBER OF	BACKBONE CABLE PAIRS			
	TENNIS COURTS	OUTSIDE Patio	CORR	GYMNASIUM 001	GYMNASIUM 116	MULTI-PURPOSE ROOM 1 - 004				KITCHEN/ CONCESSION - 015	CONCESSION/ KITCHEN - 111	GAME ROOM/ VENDING	STAGE	HARD-WIRED ZONES PER BUILDING	ONE-WAY SPEAKERS PER BUILDING	TALKBACK STATIONS PER BUILDING	REQUIRED	PROVIDED		
CER.120	3	4	22	6	6	6*	4*	4*	4*	1*	2*	1	2	13	65	6	19	25		
TOTALS	3	4	22	6	6	6	4	4	4	1	2	1	2	13	65	6	19	25		
NOTES:  1. EACH SPEAKER  2. ONE HEADEND  3. ONE HEADEND	TALKBACK	STATIO	N POR	T AND ONE	BACKBONE	CABLE PAIR	PER TALKBACK	SPEAKER.	LING AND CROS	SS-CONNECTS BAC	k to cer pri	MARY PROTEC	TORS,	EXCEPT AS SPEC	ifically indicated	D BELOW.				
	HEADEND ONE-WAY ZONES REQUIRED = 13							HEADEND O	HEADEND ONE—WAY ZONES PROVIDED = 48				HEADEND ONE-WAY ZONES SPARE = 35 (INCLUDES ONE SPARE CARD)							
	HEADEND TALKBACK STATIONS REQUIRED = 6							HEADEND TA	HEADEND TALKBACK STATIONS PROVIDED = 48				HEADEND TALKBACK STATIONS SPARE = 42 (INCLUDES ONE SPARE CARD)							
* ZONE ONE—WAY HEADEND V—TCN										RS FROM HEADEND	V-STX ONE-V	WAY CARD. WI	re tai	LKBACK SPEAKER	FROM					



INTERCOM/PA SYSTEM SYSTEM SINGLE LINE CONFIGURATION DIAGRAM

NOTE RUN ALL CABLES CONTINUOUS BETWEEN TERMINATION POINTS INDICATED WITH NO INTERMEDIATE SLICES OR TERMINATIONS.

#### CATEGORY 3 SPEAKER CABLE TERMINATION NOTE

MAKE ALL TERMINATIONS IN STRICT ACCORDANCE WITH TIA GUILDELINES AS WELL AS THE MANUFACTURER'S PRINTED INSTRUCTIONS FOR BOTH THE CABLE AND THE TERMINATION DEVICE FOR ALL FIELD CONNECTIONS IN THE "HORIZONTAL TELECOMMUNICATIONS LINK". STRIP CABLE JACKET BACK A MAXIMUM OF 1 INCH FROM THE POINT OF TERMINATION. MAINTAIN FACTORY SYMMETRICAL CABLE TWISTS TO WITHIN 0.5 INCHES (13 MM MAXIMUM) OF THE POINT OF TERMINATION. PROVIDE CABLE SLACK AT EACH END TO ALLOW MINIMUM OF FIVE (5) FUTURE RETERMINATIONS WITHOUT RE-ROUTING CABLE.

> **INTERCOM/PA SYSTEM NOTE** THE SCSC SHALL BE CERTIFIED BY TH INTERCOM/PA MANUFACTURER AT THE TIME OF BIDS FOR THE VALCOM 'MULTIPATH' SYSTEM.

#### **CER CROSS-CONNECT NOTES**

- > 16 AWG TWISTED PAIR POWER WIRING HARNESS, FACTORY FURNISHED BY VALCOM. CONTRACTOR SHALL USE ONLY FACTORY HARNESS AND SHALL INSTALL POWER AND GROUNDING IN STRICT ACCORDANCE WITH MANUFACTURER'S PRINTED
- (B) CAT 3 CABLE PUNCH ONE END DOWN ON 'V-PDP/CPU OUTPUT BLOCK' PAIRS 1-4. PUNCH OTHER END DOWN ON 'PA MAIN USER INTERFACE BLOCK' ROW 'A' PAIRS 1-4. LABEL CABLE "PA ADMIN PORTS OUTPUT CABLE" AT EVERY 2 FEET. RUN CAT 5 CABLE UP AND OVER IN CABLE RUNWAY TO BACKBOARD MOUNT 66 BLOCK. PROVIDES CONNECTIONS FROM 'V-CPU4 CARD' ADMIN PORTS 1-4 VIA 'V-PDP OUTPUT BLOCK' FOR CONNECTIONS TO EMERGENCY PAGE TELEPHONE (ADMIN PORT 1), TELEPHONE SYSTEM (ADMIN PORT 2), AND LINES 3 AND 4 OF ENGENIUS PHONE SYSTEM EP-490 BASE UNIT (ADMIN PORTS 3 AND 4).
- > CROSS-CONNECTS FROM 'V-STX CARD' ZONES VIA 'V-STX OUTPUT BLOCK' FOR CONNECTIONS TO ONE-WAY SPEAKER ZONES (ONE ZONE PER ONE-WAY SPEAKER HARD-WIRED PAGING ZONE) - 22 GAGE COLOR WHITE/BLUE.
- CROSS-CONNECTS FROM 'V-TCM CARD' STATIONS 'V-TCM OUTPUT BLOCK' FOR CONNECTIONS TO TALKBACK SPEAKERS AND CALL BUTTONS (ONE STATION PER SPEAKER AND ASSOCIATED CALL BUTTON) - 22 GAGE COLOR WHITE/BLUE FOR SPEAKERS, 24 GAGE COLOR WHITE/GREEN FOR CALL BUTTONS.
- (E) cat 3 cable Punch one end down on 'Pa Main User Interface Block' ROW 'A' PAIRS 5-8. PUNCH OTHER END DOWN ON VOICE 66 BLOCKS YELLOW FIELD BLOCK 'PA1' THEN CONNECT TO TELEPHONE PBX INTERFACE AS REQUIRED VIA CROSS-CONNECTS TO PURPLE FIELD BLOCK 'T1'. RUN CAT 5 CABLE UP AND OVER IN CABLE RUNWAY TO BACKBOARD MOUNT VOICE 66 BLOCKS AND LABEL "PA TO TELEPHONE PBX INTERFACE CABLE" AT EVERY 2 FEET.
- $\langle {\sf F} 
  angle$  cat 3 cable Punch one end down on 'Pa main user interface block' ROW 'A' PAIRS 9-12. PUNCH OTHER END DOWN ON VOICE 66 BLOCKS YELLOW FIELD BLOCK 'PA1' THEN CONNECT TO TELEPHONE PBX INTERFACE AS REQUIRED VIA CROSS-CONNECTS TO PURPLE FIELD BLOCK 'T1'. RUN CAT 5 CABLE UP AND OVER IN CABLE RUNWAY TO BACKBOARD MOUNT VOICE 66 BLOCKS AND LABEL "ENGENIUS TO TELEPHONE PBX INTERFACE CABLE" AT EVERY 2 FEET.
- $\langle { t G} 
  angle$  cat 3 cable punch one down on modular outlet at Pa Headend 'vcrom CARD OUTPUT PER VALCOM PINOUT. PUNCH OTHER END DOWN ON 'PA MAIN USER INTERFACE BLOCK' ROW 'A' PAIRS 21-24.

#### **INTERCOM/PA LABELING NOTES**

1) PA HEADEND BLOCKS (V-PDP, V-STX AND V-TCM OUTPUT BLOCKS): PROVIDE FACTORY ROW LABELS (WHITE) WHICH DESIGNATE PAIR COUNTS IN 5 PAIR INCREMENTS (FACTORY LABELED 1-5, 6-10, 11-15 AND SO ON THRU 21-25, 46-50 OR 96-100 AND BEYOND AS APPLICABLE). PROVIDE ENGRAVED PLASTIC TAG MOUNTED ON BLOCK COVER WITH TEXT PER "ENGRAVED TAG DETAIL" FOR EACH TYPE BLOCK. IN ADDITION PROVIDE LAMINATED PAPER I.D. TAG ATTACHED TO RIGHT SIDE OF BLOCK WITH FLEXIBLE LOOP (IBICO/GBC LUGGAGE TAG WITH LOOP). FOR TAG FABRICATION AND TEXT LAYOUT, SEE "LAMINATED I.D. TAG DETAIL" FOR EACH TYPE BLOCK.

**COMMUNICATIONS EQUIPMENT ROOM - CER.120** 

ONE-WAY SPKR POWER

(ONE-WAY SPEAKERS)

DISTRIBUTION SIDE PA WIRING

LABELING NOTE 8

ONE-WAY SPEAKER

POWER DISTRIBUTION BLOCK—

- USE FACTORY ROW LABELS TO IDENTIFY PAIR BY PAIR CONNECTIONS PER VALCOM TECHNICAL MANUALS MATCHING THE TERMINOLOGY USED ON THESE DRAWINGS. CALL THE ENGINEER WITH
- 2) PA BACKBONE BLOCK AT CER 'PA HEADEND SIDE WIRING': PROVIDE FACTORY ROW LABELS (WHITE) WHICH DESIGNATE PAIR COUNTS IN 5 PAIR INCREMENTS (FACTORY LABELED 1-5, 6-10, 11-15 AND SO ON THRU 21-25, 46-50 OR 96-100 AND BEYOND AS APPLICABLE). PROVIDE ENGRAVED PLASTIC TAG MOUNTED ON BLOCK RIGHT COVER. TAG SHALL INDICATE "PA BACKBONE BLOCK" AND OVERALL CABLE PAIR COUNTS. FOR TAG FABRICATION, SEE "ENGRAVED TAG DETAIL". FOR PAIR COUNTS SEE THIS SHEET. IN ADDITION PROVIDE LAMINATED PAPER I.D. TAG ATTACHED TO RIGHT SIDE OF PROTECTOR WITH FLEXIBLE LOOP (IBICO/GBC LUGGAGE TAG WITH LOOP). I.D. TAG SHALL INDICATE "PA BACKBONE BLOCK", EACH CER 'DISTRIBUTION SIDE WIRING' SERVED AND THE CORRESPONDING CABLE PAIR COUNTS FOR EACH CER 'DISTRIBUTION SIDE WIRING'. FOR TAG FABRICATION AND TEXT LAYOUT, SEE "LAMINATED I.D. TAG DETAIL".
- 3) PA BACKBONE PROTECTOR AT CER 'PA HEADEND SIDE WIRING': PROVIDE FACTORY ROW LABELS (GREEN) WHICH DESIGNATE PAIR COUNTS IN 5 PAIR INCREMENTS (FACTORY LABELED 1-5, 6-10, 11-15 AND SO ON THRU 21-25, 46-50 OR 96-100 AS APPLICABLE). PROVIDE ENGRAVED PLASTIC TAG MOUNTED ON PROTECTOR BLOCK FRONT COVER, TAG SHALL INDICATE "PA BACKBONE" PROTECTOR" AND OVERALL CABLE PAIR COUNTS. FOR TAG FABRICATION, SEE "ENGRAVED TAG DETAIL". FOR PAIR COUNTS SEE THIS SHEET. IN ADDITION PROVIDE LAMINATED PAPER I.D. TAG ATTACHED TO RIGHT SIDE OF PROTECTOR WITH FLEXIBLE LOOP (IBICO/GBC LUGGAGE TAG WITH LOOP). I.D. TAG SHALL INDICATE "PA BACKBONE PROTECTOR", CER SERVED AND THE CORRESPONDING CABLE PAIR COUNTS FOR CER. FOR TAG FABRICATION AND TEXT LAYOUT, SEE "LAMINATED I.D. TAG DETAIL".

5) PA BACKBONE DISTRIBUTION BLOCK AT CER 'DISTRIBUTION SIDE WIRING': PROVIDE FACTORY ROW LABELS (WHITE) WHICH DESIGNATE PAIR COUNTS IN 5 PAIR INCREMENTS (FACTORY LABELED

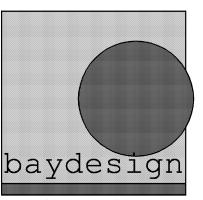
1-5, 6-10, 11-15 AND SO ON THRU 21-25, 46-50 OR 96-100 AND BEYOND AS APPLICABLE). PROVIDE ENGRAVED PLASTIC TAG MOUNTED ON BLOCK RIGHT COVER. TAG SHALL INDICATE

- "PA BACKBONE DISTRIBUTION" AND OVERALL CABLE PAIR COUNTS. FOR TAG FABRICATION, SEE "ENGRAVED TAG DETAIL". FOR PAIR COUNTS SEE THIS SHEET. IN ADDITION PROVIDE LAMINATED PAPER I.D. TAG ATTACHED TO RIGHT SIDE OF PROTECTOR WITH FLEXIBLE LOOP (IBICO/GBC LUGGAGE TAG WITH LOOP). I.D. TAG SHALL INDICATE "PA BACKBONE DISTRIBUTION", EACH CER 'DISTRIBUTION SIDE WIRING' SERVED AND THE CORRESPONDING CABLE PAIR COUNTS FOR EACH CER 'DISTRIBUTION SIDE WIRING'. FOR TAG FABRICATION AND TEXT LAYOUT, SEE "LAMINATED I.D. 6) ONE—WAY SPEAKERS ZONE BRIDGING BLOCKS: PROVIDE FACTORY ROW LABELS (WHITE). USE FACTORY ROW LABELS LASER PRINTED TO IDENTIFY ONE—WAY SPEAKER ZONES USING ZONE NAMING
- CONVENTIONS INDICATED ON SHEET PA-1. PROVIDE ENGRAVED PLASTIC TAG MOUNTED ON BLOCK COVER. PROVIDE TEXT AS INDICATED ON "ENGRAVED TAG DETAIL". IN ADDITION PROVIDE LAMINATED PAPER I.D. TAG ATTACHED TO RIGHT SIDE OF BLOCK WITH FLEXIBLE LOOP (IBICO/GBC LUGGAGE TAG WITH LOOP). FOR TAG FABRICATION AND TEXT LAYOUT, SEE "LAMINATED I.D. TAG
- 7) ONE-WAY SPEAKERS & TALKBACK SPEAKERS HORIZONTAL WIRING BLOCKS: PROVIDE FACTORY ROW LABELS (WHITE) WHICH DESIGNATE PAIR COUNTS IN 4 PAIR INCREMENTS. USE FACTORY ROW LABELS LASER PRINTED TO IDENTIFY EACH SPEAKER CABLE IN ACCORDANCE WITH "SPEAKER IDENTIFICATION NOMENCLATURE" SHEET PA-1. PROVIDE ENGRAVED PLASTIC TAG MOUNTED ON BLOCK COVER. PROVIDE TEXT AS INDICATED ON "ENGRAVED TAG DETAIL" FOR EACH TYPE BLOCK. IN ADDITION PROVIDE LAMINATED PAPER I.D. TAG ATTACHED TO RIGHT SIDE OF BLOCK WITH FLEXIBLE Loop (ibico/gbc luggage tag with loop). For tag fabrication and text layout, see "laminated i.d. tag detail" for each type block.
- PROVIDE LAMINATED PAPER I.D. TAG ATTACHED TO RIGHT SIDE OF BLOCK WITH FLEXIBLE LOOP (IBICO/GBC LUGGAGE TAG WITH LOOP). FOR TAG FABRICATION AND TEXT LAYOUT, SEE "LAMINATED

8) ONE-WAY SPEAKERS POWER DISTRIBUTION BLOCKS: PROVIDE ENGRAVED PLASTIC TAG MOUNTED ON BLOCK COVER. PROVIDE TEXT AS INDICATED ON "ENGRAVED TAG DETAIL". IN ADDITION

- 9) PA MAIN USER INTERFACE BLOCK: PROVIDE ENGRAVED PLASTIC TAG WITH DOUBLE SIDED TAPE, WHITE WITH 3/16" HIGH BLACK TEXT AS INDICATED, SECURE TO FACE OF BACKBOARD NEXT TO BLOCK FOR HIGH VISIBILITY. SECURE WITH DOUBLE SIDED TAPE AND TWO SS SCREWS. FOR TEXT SEE THIS SHEET.
- 10) PA INTERFACE OUTLET BLOCK: PROVIDE ENGRAVED PLASTIC TAG WITH DOUBLE SIDED TAPE, WHITE WITH 3/16" HIGH BLACK TEXT AS INDICATED, SECURE TO FACE OF BACKBOARD NEXT TO BLOCK FOR HIGH VISIBILITY. SECURE WITH DOUBLE SIDED TAPE AND TWO SS SCREWS. FOR TEXT SEE THIS SHEET.





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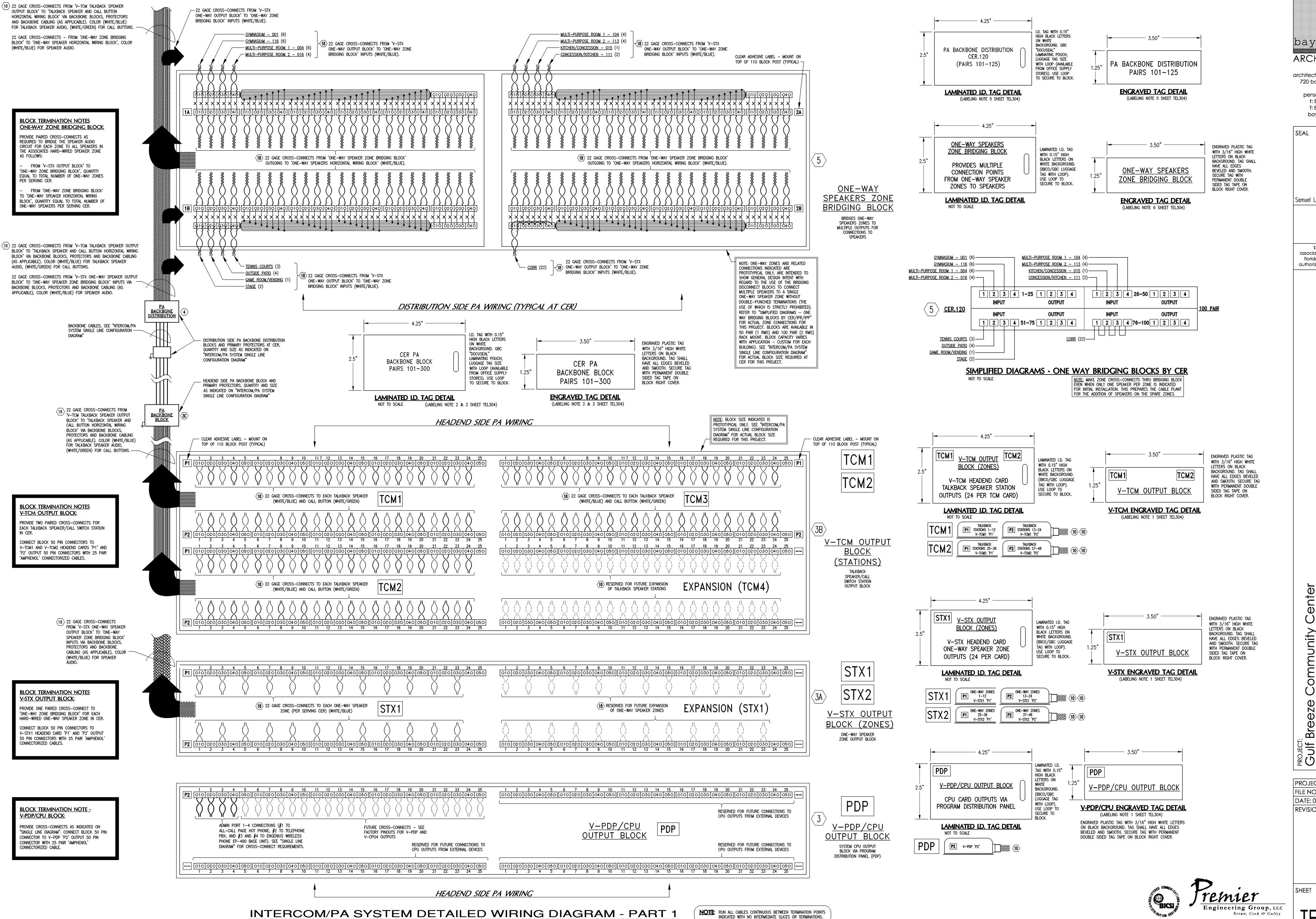
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Samuel L. Gulley, PE #5000

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> ONFIGURATION SINGL

SHEET TITE DATA, PROJECT NO: FILE NO: DATE: 06.01.2011



INDICATED WITH NO INTERMEDIATE SLICES OR TERMINATIONS.

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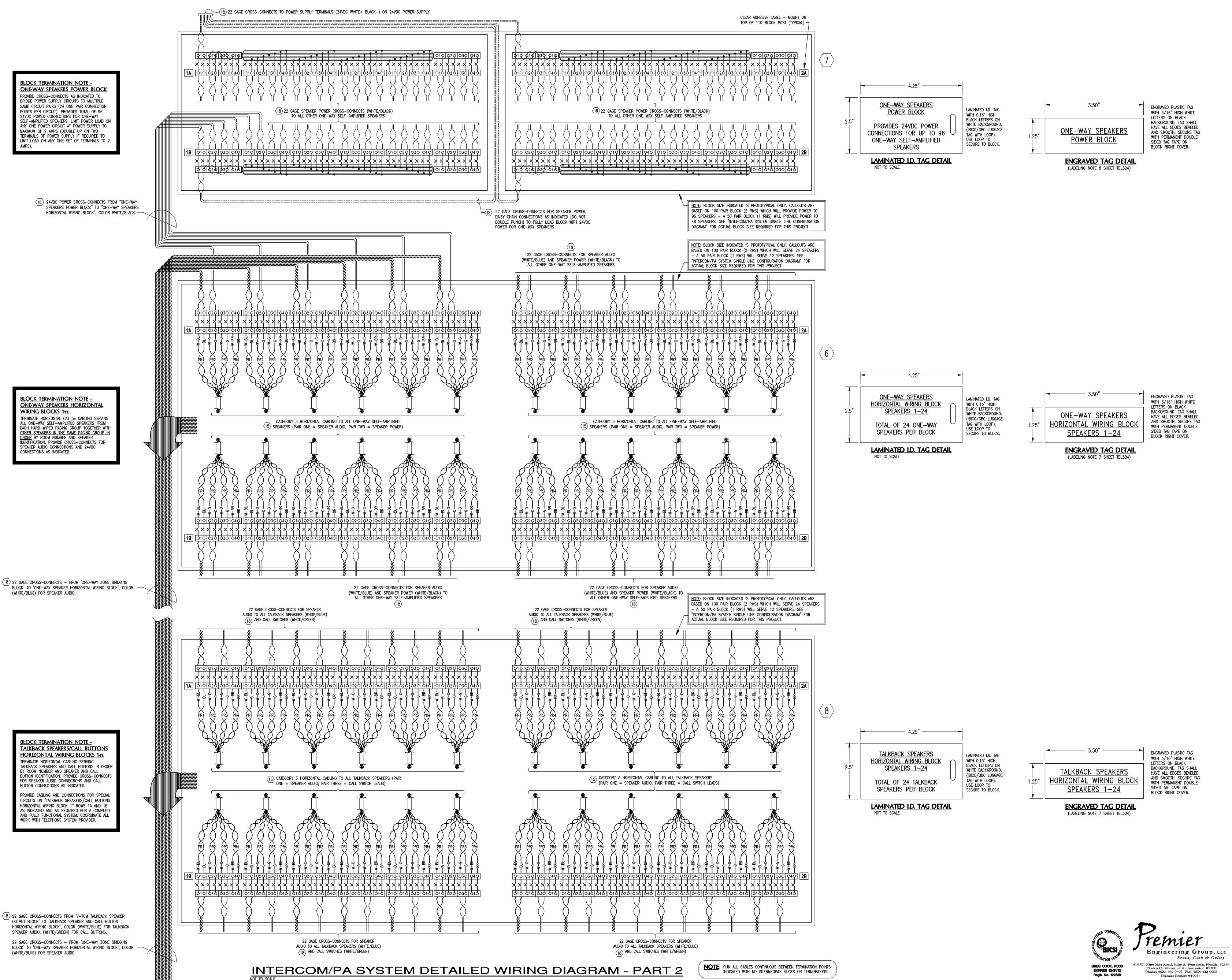
**PART** DIAGRAM **WIRING** 

DETAILED SYSTEM SHEET TITLE:
INTERCOM/PA (

PROJECT NO:

FILE NO: DATE: 06.01.2011

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DISTRIBUTION SIDE PA WIRING (TYPICAL AT CER)

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**ARCHITECTURE** 

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Samuel L. Gulley, PE #5000

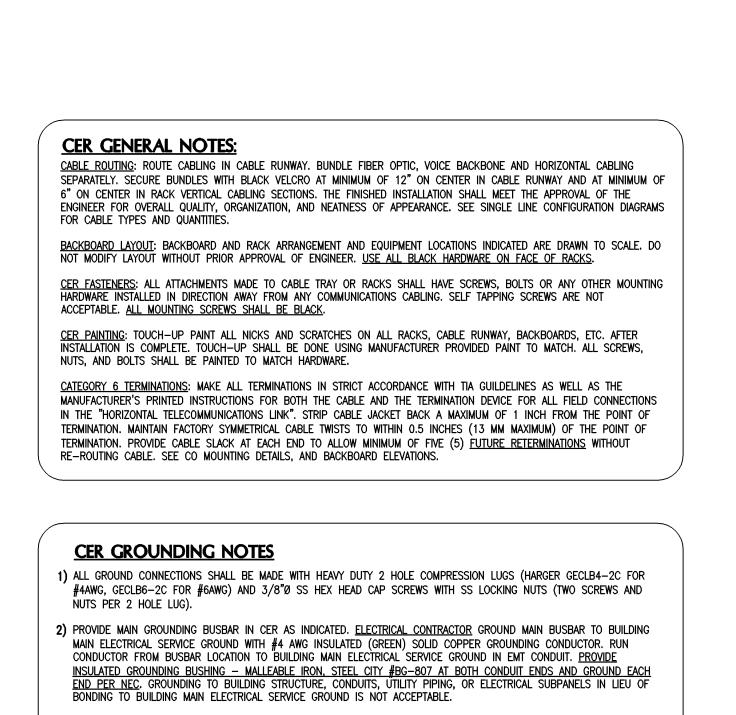
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authorization AA0003597

ENGRAVED PLASTIC TAG WITH 3/16" HIGH WHITE LETTERS ON BLACK BACKGROUND. TAG SHALL HAVE ALL EDGES BEVELED AND SMOOTH. SECURE TAG WITH PERMANENT DOUBLE SIDED TAG TAPE ON BLOCK RIGHT COVER.

> PART DIAGRAM **WIRING** DETAILED SYSTEM SHEET TITLE: INTERCOM/PA (

PROJECT NO: DATE: 06.01.2011



3) GROUND ALL COMMUNICATION RACKS WITH #6 AWG INSULATED (GREEN) SOLID COPPER GROUNDING CONDUCTOR TO MAIN GROUNDING BUSBAR. GROUND RACKS INDIVIDUALLY TO BUSBAR (DO NOT LOOP GROUNDS). ROUTE CONDUCTOR ALONG

4) GROUND EACH CONDUIT AND CONDUIT SUPPORT STRUT WITH #6 AWG INSULATED (GREEN) SOLID COPPER GROUNDING

5) GROUND CABLE RUNWAY WITH #6 AWG INSULATED (GREEN) SOLID COPPER GROUNDING CONDUCTOR TO GROUNDING

#6 AWG INSULATED (GREEN) COPPER GROUNDING CONDUCTOR. PLASTIC INSULATING BUSHING IS ALSO REQUIRED.

7) GROUND TV ENCLOSURE WITH #6 AWG INSULATED (GREEN) SOLID COPPER GROUNDING CONDUCTOR TO GROUNDING

6) PROVIDE UL LISTED CONDUIT GROUNDING BUSHING ON END OF EACH BACKBONE CONDUIT AND GROUND TO BUSBAR WITH

8) GROUND PA HEADEND CHASSIS WITH #6 AWG INSULATED (GREEN) SOLID COPPER GROUNDING CONDUCTOR TO GROUNDING

CONDUCTOR TO GROUNDING BUSBAR. ROUTE CONDUCTOR IN CABLE RUNWAY TO GROUNDING BUSBAR.

RACK REAR AND IN CABLE RUNWAY TO GROUNDING BUSBAR.

BUSBAR. ROUTE CONDUCTOR IN CABLE RUNWAY TO GROUNDING BUSBAR.

BUSBAR. ROUTE CONDUCTOR IN CABLE RUNWAY TO GROUNDING BUSBAR.

BUSBAR. ROUTE CONDUCTOR IN CABLE RUNWAY TO GROUNDING BUSBAR.

LETTER'S ON BLACK

BACKGROUND. TAG

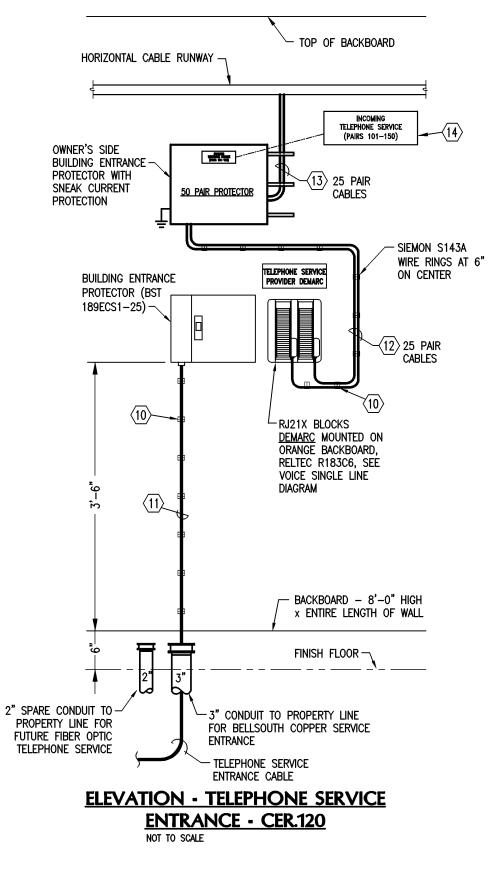
SECURE TAG WITH

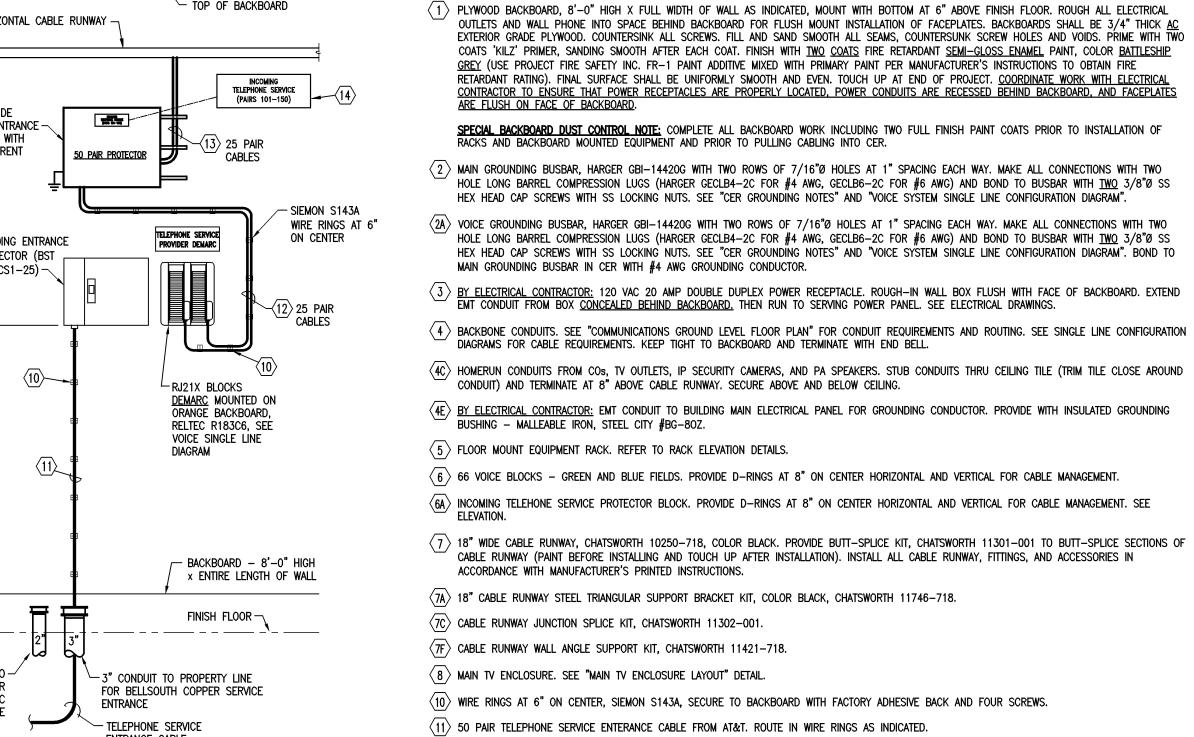
PERMANENT DOUBLE

SIDED TAG TAPE ON

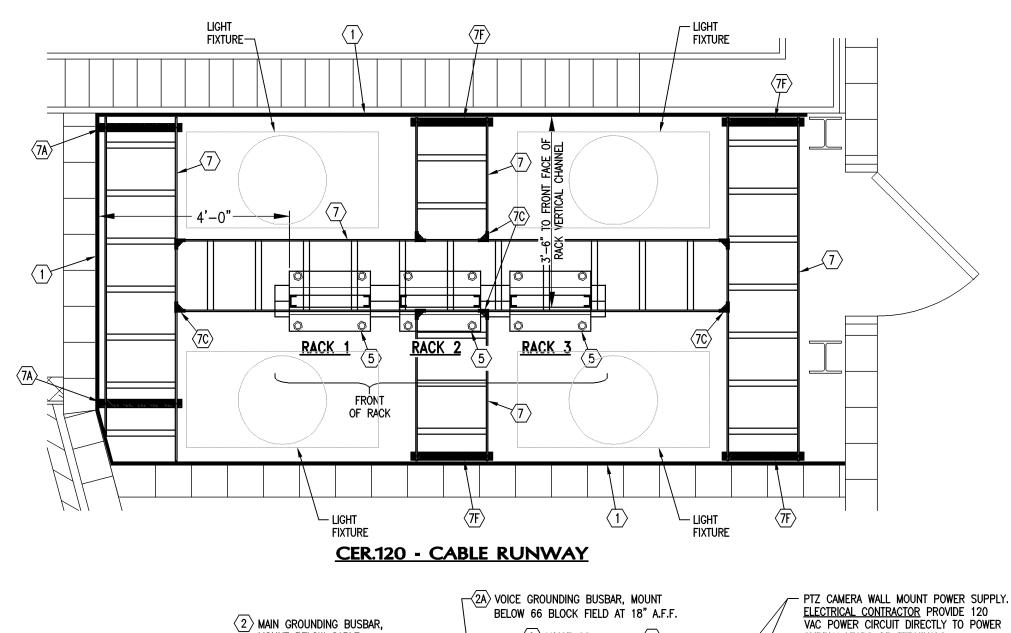
ENCLOSURE COVER IN

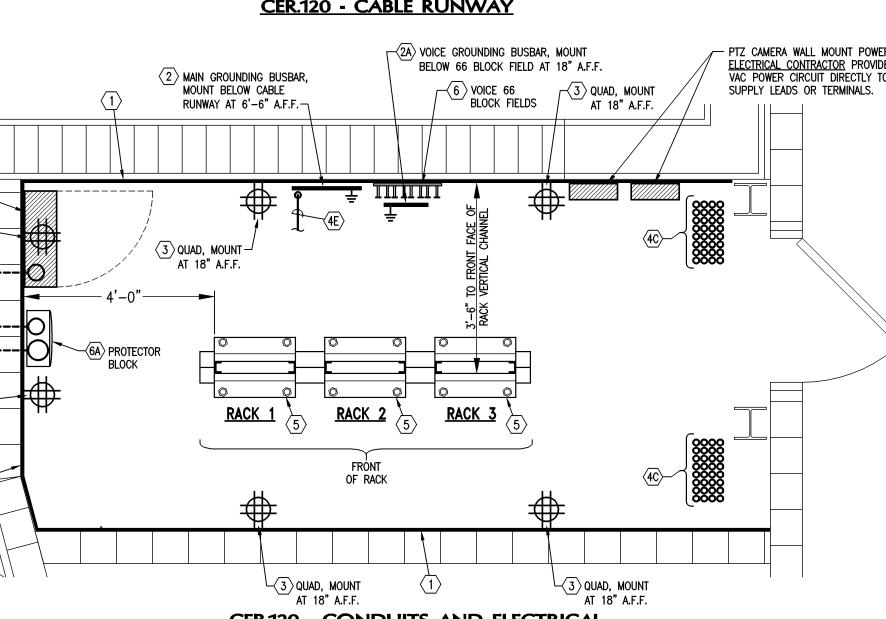
**ENGRAVED TAG DETAIL** 

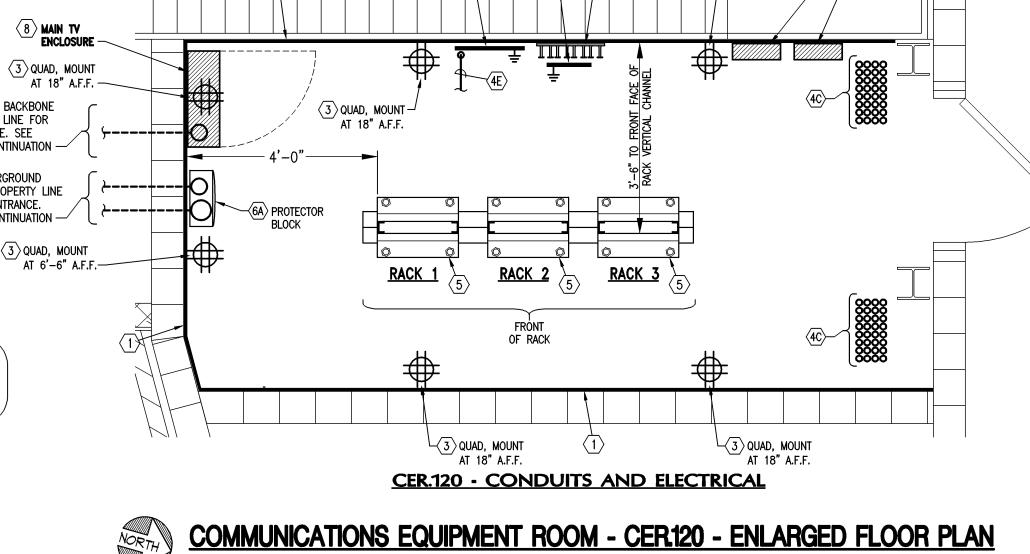




CER ENLARGED FLOOR PLAN KEY NOTES:



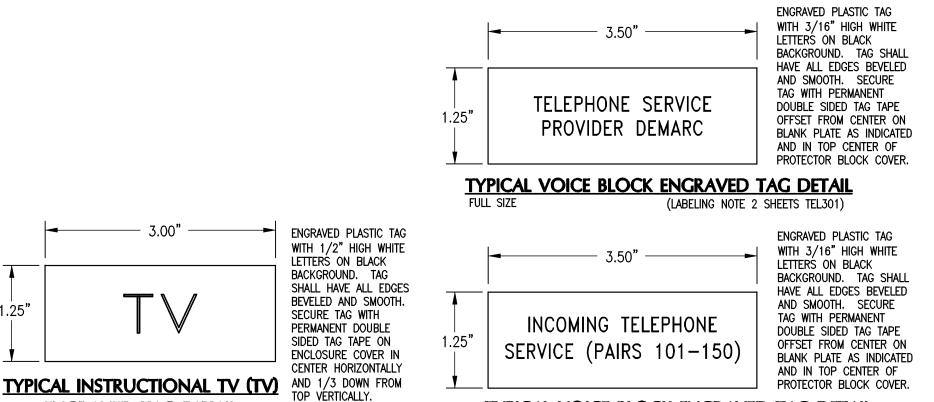




GRAPHIC SCALE: 1/2" = 1'-0"

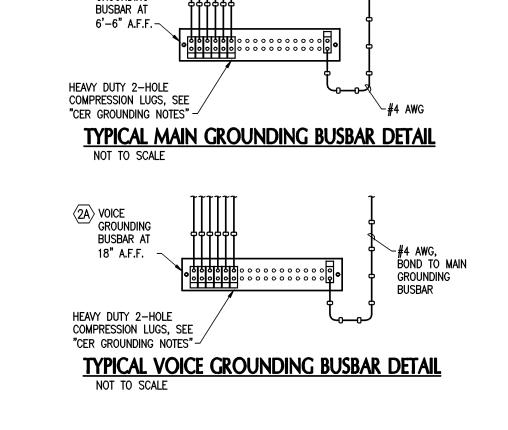
POWER CORD NOTE: The Structured Cabling System Contractor shall provide factory made electrical power extension cords as required to extend power connections from all Owner Furnished data equipment to rack power strips. Cords shall route from equipment, up racks attached to standoff brackets as indicated on drawings, and over in cable runway to rack power strips. The Structured Cabling System Contractor shall also all provide factory made electrical power extension cords as required to extend cords from all rack power strips to a wall mount 120VAC power outlet as directed by the Owner in the field. Power extension cords shall be black, 20 amp capacity (or heavier if required by the equipment served), heavy duty insulation, length as required to make each connection, properly routed and secured at 12 inches on center, with only one cord allowed per connection, and without excess cord storage.

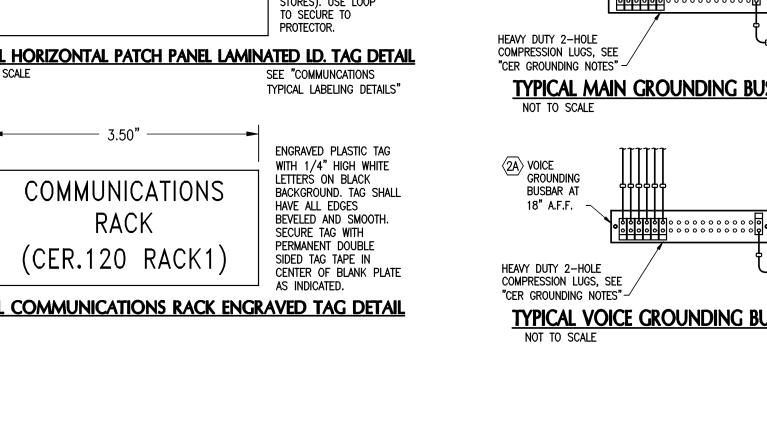
ELECTRICAL CONTRACTOR NOTE IN CER, RECESS ALL POWER CONDUITS AND DEVICE BOXES INTO WALLS BEHIND BACKBOARDS TO ALLOW FLUSH MOUNTING OF POWER OUTLET FACE PLATES. DO NOT SURFACE MOUNT CONDUITS ON CER BACKBOARDS,



<u>TYPICAL VOICE BLOCK ENGRAVED TAG DETAII</u>

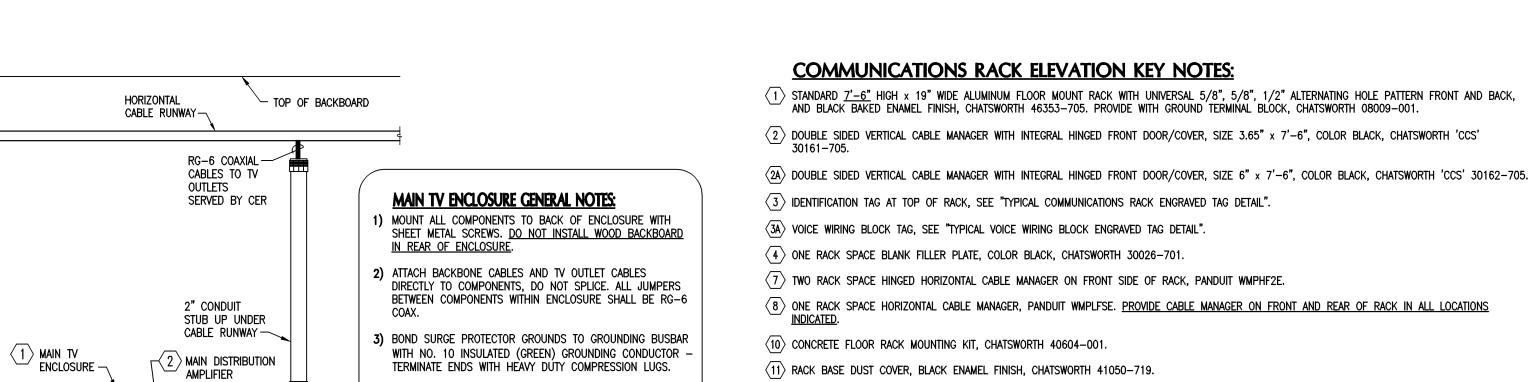




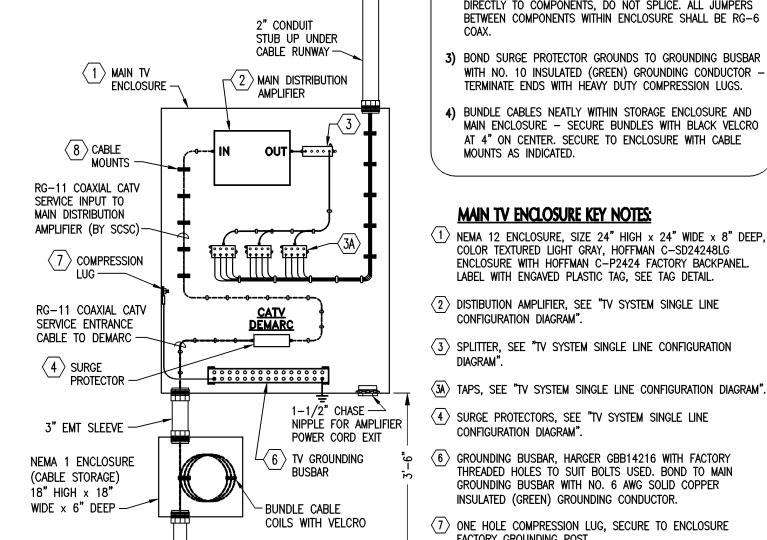


.D. TAG WITH 0.15"

HIGH BLACK LETTERS



(LABELING NOTE 3 SHEETS TEL301)



(8) VELCRO CABLE MOUNTS, PANDUIT TMEH-S10-QO. SECURE

CABLES WITH BLACK VELCRO.

∠BACKBOARD - 8'-0" HIGH

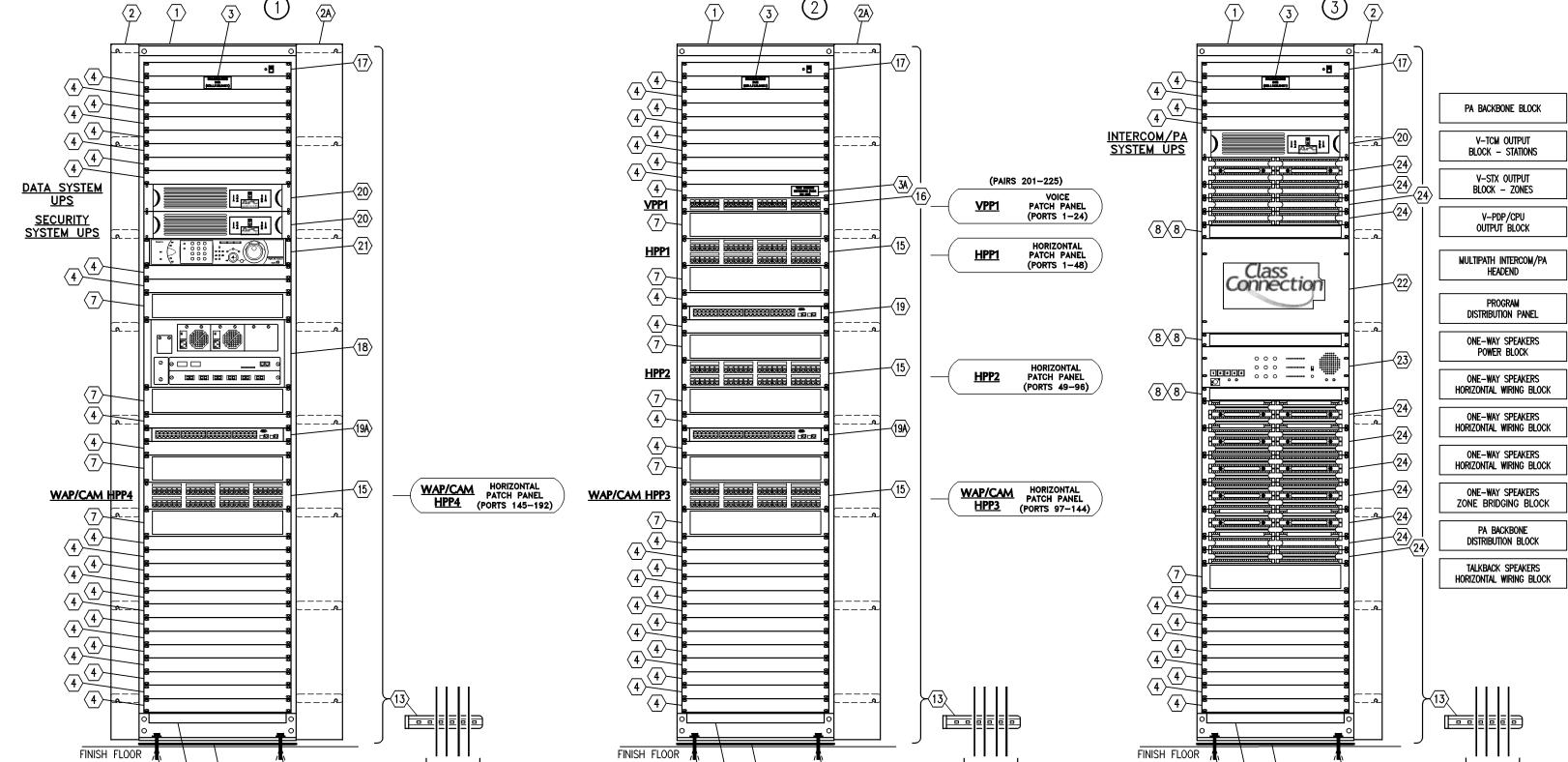
NOT TO SCALE

2" CONDUIT TO PROPERTY LINE

FOR CATV SERVICE ENTRANCE

× ENTIRE LENGTH OF WALL

MAIN TV ENCLOSURE DETAIL



4 ONE 2" UNDERGROUND BACKBONE

CATV SERVICE ENTRANCE. SEE

4) ONE 3" AND ONE 2" UNDERGROUND

FOR TELEPHONE SERVICE ENTRANCE.

CONDUIT TO PROPERTY LINE FOR

SHEET TEL101 FOR CONTINUATION —

BACKBONE CONDUITS TO PROPERTY LINE

SEE SHEET TEL101 FOR CONTINUATION —



SIDE INTERCOM/PA

SIDE INTERCOM/PA

PROJECT NO:

DATE: 06.01.2011

FILE NO:

RACK

ANS

SHETT

baydesigr

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suite 200

CER.120 RACK2 CER.120 RACK3 0' 3" 6" 1' **COMMUNICATIONS RACK ELEVATIONS** GRAPHIC SCALE: 1" = 1'-0"

CABLE RUNWAY MOUNTING HEIGHT NOTE BOTTOM OF CARLE RUNWAY MUST BE MOUNTED AT EXACT HEIGHT ABOVE THE FINSHED FLOOR TO ALLOW INSTALLATION OF 7'-6" HIGH RACKS. - HORIZONTAL CABLE RUNWAY GROUNDING CABLE RUNWAY MOUNT TWO (2) J-BOLTS PER rack, j-bolt kit UPSIDE DOWN (WITH RUNNERS UP AS INDICATED) -RACK TO CABLE RUNWAY MOUNTING PLATE, CHATSWORTH 10595-718 BOLT MOUNTING PLATE-TO RACK ANGLES, DRILL HOLES IN MOUNTING PLATE AS REQUIRED

<12 25 PAIR TELEPHONE CABLES FROM TELEPHONE DEMARC TO "INCOMING TELEPHONE SERVICE" PROTECTOR BLOCK. ROUTE IN WIRE RINGS AS INDICATED.</p>

(14) Engraved Identification tag, see "typical voice block engraved tag detail" and "voice system single line configuration diagram".

⟨13⟩ 25 PAIR TELEPHONE CABLES FROM "INCOMING TELEPHONE SERVICE" PROTECTOR BLOCK TO CUSTOMER SIDE TELEPHONE SERVICE ENTRANCE 66 BLOCKS

ON TELEPHONE GREEN BACKBOARD. ROUTE IN CABLE RUNWAY AS INDICATED. PROVIDE D-RINGS AT 8" ON CENTER ON TELEPHONE SYSTEM BACKBOARD.

FRONT

POWER

CER.120 RACK1

CHATSWORTH 11308-001-7 **TYPICAL CABLE RUNWAY RACK SUPPORT DETAIL** 

(8) ONE RACK SPACE HORIZONTAL CABLE MANAGER, PANDUIT WMPLFSE. PROVIDE CABLE MANAGER ON FRONT AND REAR OF RACK IN ALL LOCATIONS

 $\langle 12 
angle$  rack isolation kit, chatsworth 10605–019. (13) NYLON CABLE STANDOFF BRACKET, CHATSWORTH 10001-001. MOUNT ON BACK LEFT SIDE OF ALL RACKS AT 12" ON CENTER FOR ROUTING GROUNDING CONDUCTORS AND POWER EXTENSION CORDS UP AND DOWN RACKS. TYWRAP EACH CONDUCTOR AND CORD INDIVIDUALLY ON STANDOFF. (NOT SHOWN

(15) 48 PORT CATEGORY 6 HORIZONTAL PATCH PANEL (HPP), SEE "DATA SINGLE LINE CONFIGURATION DIAGRAM" (16) 24 PORT PRE-CONNECTORIZED VOICE BACKBONE PATCH PANEL, SEE "VOICE SINGLE LINE CONFIGURATION DIAGRAM". PROVIDE TWO PANDUIT WMBR1 CABLE BARS ON BACK OF RACK, STRAP 25 PAIR VOICE CABLES TO CABLE BARS.

> RACKMOUNT POWER SURGE SUPRESSOR, PANAMAX "POWERMAX RACMAX" GRM0600, COLOR BLACK, PROVIDE WITH 6 AC RECEPTACLES ON BACK OF UNIT AND 12' POWER CORD.

OWNER FURNISHED CONTRACTOR INSTALLED (OFCI): ETHERNET CORE SWITCH. SEE "DATA SYSTEM SINGLE LINE CONFIGURATION DIAGRAM". NOTE: WHERE EQUIPMENT FURNISHED BY OWNER VARIES IN SIZE OR QUANTITY FROM THAT INDICATED, PROVIDE BLANK FILLER PLATES TO COVER ALL UNUSED RACK

OWNER FURNISHED CONTRACTOR INSTALLED (OFCI): NON-POE ETHERNET SWITCH. SEE "DATA SYSTEM SINGLE LINE CINFIGURATION DIAGRAM". NOTE: WHERE QUIPMENT FURNISHED BY OWNER VARIES IN SIZE OR QUANTITY FROM THAT INDICATED, PROVIDE BLANK FILLER PLATES TO COVER ALL UNUSED RACK OWNER FURNISHED CONTRACTOR INSTALLED (OFCI): POE ETHERNET SWITCH. SEE "DATA SYSTEM SINGLE LINE CINFIGURATION DIAGRAM". NOTE: WHERE EQUIPMENT FURNISHED BY OWNER VARIES IN SIZE OR QUANTITY FROM THAT INDICATED, PROVIDE BLANK FILLER PLATES TO COVER ALL UNUSED RACK

(20) SCSC PROVIDE: AMERICAN POWER CONVERSION UNINTERRUPTIBLE POWER SUPPLY (UPS) SUA2200RM2U (2 RACK UNITS HIGH) 2200 VA (QUANTITY THREE - ONE FOR DATA EQUIPMENT, ONE FOR SECURITY SYSTEM, AND ONE FOR INTERCOM/PA SYSTEM), RACK MOUNT AND ROUTE POWER CORDS IN RACK MOUNTED WIRE MANAGEMENT FROM POWER SOURCE RECEPTACLE TO UPS AND FROM UPS TO SERVING EQUIPMENT.

21 scsc provide: IP security system headend network video recorder (NVR). 2) Intercom/pa system headend chassis. See "intercom/pa single line configuration diagram". <u>Note:</u> where equipment furnished by owner VARIES IN SIZE OR QUANTITY FROM THAT INDICATED, PROVIDE BLANK FILLER PLATES TO COVER ALL UNUSED RACK SPACES.

i) intercom/pa system program distribution panel. See "intercom/pa single line configuration diagram". <u>Note:</u> where equipment furnished BY OWNER VARIES IN SIZE OR QUANTITY FROM THAT INDICATED, PROVIDE BLANK FILLER PLATES TO COVER ALL UNUSED RACK SPACES.

(24) INTERCOM/PA WIRING BLOCKS, SEE "INTERCOM/PA SINGLE LINE CONFIGURATION DIAGRAM".