

Act ID	Activity Description	Original Duration	Early Start	Early Finish
HCPD Central Precinct				
0001	Preconstruction	119 *	04/29/14	10/10/14
3700	Finalize Detailed Submission	10	04/29/14	05/12/14
3810	Submit SWPPP	5	05/08/14	05/12/14
3830	Public Hearing on Detailed Submission	10	05/13/14	05/26/14
3850	Substantially In Accord Approval	35	05/29/14	07/18/14
3880	Civil Engineering NTP for POD	1	08/12/14	08/12/14
3800	POD Design	30	08/18/14	07/25/14
3900	POD Submission	1	07/25/14	07/25/14
3910	POD Approval by County	40	07/29/14	09/22/14
3980	Execute Comprehensive Agreement	4	08/12/14	08/15/14
4200	Produce Construction Drawings	11	08/12/14	08/28/14
4300	Construction Drawing Review & Approval	11	08/28/14	09/09/14
4400	Building Permit Submission & Approval	24	08/28/14	09/28/14
4500	Project Subcontractor Bidding	11	08/28/14	09/09/14
4600	Review & Approval of Final Budget	6	09/12/14	09/19/14
4700	Permits Issued & Budget Approved	5	09/29/14	10/03/14
3870	Land Purchase Closing	5	10/06/14	10/10/14
4800	Construction	188 *	10/13/14	07/01/15
4900	Mobilize / Land Disturbance Mitg	5	10/13/14	10/17/14
5000	E&S, Clearing & Grading	10	10/20/14	10/31/14
5100	Building Pad on Grade	10	11/03/14	11/14/14
5900	Pad Acceptance w/Benchmarks	1	11/14/14	11/14/14
5200	Site Utilities	40	11/17/14	01/09/15
6000	MEP Underground Stub Outs	5	11/17/14	11/21/14
6100	Excavate Column Footings	5	11/17/14	11/21/14
6200	Excavate Grade Beams	5	11/24/14	11/28/14
6300	Place Rebar	10	11/24/14	12/05/14
6500	MEP Underground	10	11/24/14	12/05/14
6400	Pour Column Footings	5	12/08/14	12/12/14
6600	Pour Grade Beams	5	12/15/14	12/19/14
6700	Install S.O.G. Edgeform	5	12/22/14	12/28/14
6800	Fine Grade Pad	5	12/29/14	01/02/15
6900	Place S.O.G. Concrete	5	01/05/15	01/09/15
7000	Form Wall Panels	10	01/12/15	01/23/15
7100	Place rebar & Inserts	10	01/19/15	01/30/15
7200	Pour 1st - Half Wall Concrete	5	01/26/15	01/30/15
7300	Pour 2nd - Half Wall Concrete	5	02/02/15	02/06/15
6300	Utility Tie-Ins	15	02/09/15	02/27/15

RVA Construction, Inc.
HCPD Central Precinct



Henrico Police Department Central Precinct (HPDC)
**EXHIBIT C - List of Required Project Features
and Conceptual Specifications**

August 13, 2014

Division 1 – General Conditions

1. One site construction sign with all key contractors and Developer on it.
2. Visitors must be escorted while on site during construction.
3. Site will be kept neat and free of debris, trash will be picked up daily.
4. The cost of the building permit paid by Developer.
5. Structural Design, Mechanical, Electrical, Plumbing, fire sprinkler, site lighting, and landscaping are Design-Build by the respective sub-Developers and paid by Developer.
6. Project Supervision and operations based upon an eight-month construction schedule. Extended Project overhead for delays is addressed in the Comprehensive Agreement.
7. All third-party testing paid by Developer.
8. Builders Risk Insurance obtained and maintained by Developer.
9. Utility Fees, connection fees and/or development fees paid by Developer.
10. Architectural and Civil Engineering fees paid by Developer.
11. All penetrations of slab-to-slab fire-rated partitions shall be sealed airtight. Developer shall verify partition rating and provide fire dampers and access doors as required. Curtain type dampers shall be with the curtain out of the air stream.
12. Wherever fire rated partitions are penetrated for wire, duct, or pipe passage, seal passages with code approved, laboratory tested and labeled sealant of fire resistance rating not less than that of penetrated assembly that will prevent passage of fire and smoke.
13. The Developer shall remove all waste materials, debris and rubbish from the site and legally dispose of it.
14. A certificate of final inspection and approval by the Henrico County Building Official for all permits required shall be submitted to the County Representative. All required fees, permits, and inspections shall be obtained and paid for by the Developer.
15. Upon completion of the work, the Developer shall demonstrate to the County Representative that all systems are complete and operating as designed, and shall provide comprehensive training on all systems.

16. All products located within plenum areas including but not limited to insulation and adhesive systems shall have a composite fire hazard rating not to exceed 25 flame spread and 50 smoke developed as determined by the applicable UL or ASTM standard.
17. All rooftop equipment must be screened to hide equipment from view. Standard screening not less than 64" in height and of appropriate material and color.

Division 2 – Sitework

1. Asphalt parking lot with curb for 50 vehicles plus code required ADA accessible parking spaces. Surface drainage where allowed and pipe drainage as required. Storm drainage (BMP) on-site as required. Landscape as required by the Codes and Standards and/or park covenants. Native species and low water use plans are preferred but not required.
2. Monument sign at entrance.
3. Sitework as shown on Burgess & Niple plans C0.01, C1.01, C1.02, C2.01, C2.02, C3.01, C4.01, C4.02, C5.01, C5.02, C5.03, C6.01, dated June 19, 2014.
4. Select fill under slab and parking lot per geo-tech recommendation.
5. Light duty pavement course in front and lower parking area, heavy duty in main entrance and in front of garage. Light duty pavement will contain at least 2 inches of asphalt surface layer over at least 6 inches of base course. Heavy duty pavement shall contain at least 1.5 inches of asphalt surface layer over at least 2.5 inches of base course, both over at least 8 inches of aggregate base crushed stone.
6. Surface flow in parking lots if possible, valley gutters in the parking area if necessary.
7. Parking bumpers along all parking lot edges (both landscaped and sidewalk) without curb.
8. Topsoil depth of 4", free of any stones or roots over ¾". Grass areas shall be seeded and maintained until an acceptable stand of grass is established. Drip irrigation in landscape beds only.
9. Plantings along front of building and other areas to meet code and buffer requirements. Additional plantings along the west property line to screen the garage doors from the adjacent property. Additional plantings along the front of the property similar to other properties on Villa Park Drive.
10. Dumpster Enclosure of tilt-wall material with Hardy Plank, Vinyl or metal (similar to roofscreen) gate. Warranty does not apply to metal gate.
11. Install Left turn lane along Villa park Drive as indicated on the plan.
12. Site signage for Parking, ADA, Fire Lanes, Stop Signs, and other required signage.

Division 3 – Concrete

1. No concrete mix shall include fly-ash.

2. Wall panels will be 7.25-inch +/- thick concrete tilt-up walls at front, rear and sides of building. Interior wall between the garage and the office area shall be an appropriate fire rated assembly.
3. Insulation value of all exterior walls shall be a minimum of R-19 in the office and R-5 in the garage.
4. Tilt Panel Concrete to be 4,000 PSI with ¾" reveals.
5. Office floor will be 3,500 PSI, 4-inch concrete. Garage floor will be 3,500 PSI, 5-inch concrete floor, wet-cut with concrete cutter (no hand-held cutting) FF – 35 / FL - 25. If concrete floor is not a monolithic pour, then doweled construction joints. All exterior concrete shall have a maximum water to cement ratio of .045. No ice melt is to be used on concrete less than one year old.
6. 3,500 PSI 4-inch brushed walk at front and adjoining the parking area where indicated on the Civil Plan.
7. Defined half-inch lip edge at door line, covered with extended threshold. This is required to be a separate pour from any walkway.
8. Knock-out panels – May be specified. TBD.
9. Garage clear height not less than 18 feet.

Division 4 – Masonry

1. (moved to Division 9)

Division 5 – Metals

1. Structural Steel
2. Metal deck will be 1-1/2" Wide Rib (Type B) Galvanized. Gauge to be specified by Structural Engineer but not less than 22 gauge.
3. Roof Ladder meeting OSHA requirements for roof access
4. Kynar or equal metal cap on parapet.
5. Four-inch, concrete-filled bollards with PVC cover on exterior and interior of garage doors.

Division 6 – Wood, Plastics & Composites

1. Wood Nailer at top of parapet.
2. Millwork, toilet partitions and accessories as indicated on the plan.

Division 7 – Thermal & Moisture Protection

1. Roof Insulation, R22 (assume 5.56 aged R value per inch of polyisocyanurate roof insulation)..

2. 60 mil TPO or KEE, mechanically fastened, 20-year warranty, adequate wind uplift resistance/classification. Fully-adhered on vertical surfaces (parapet walls). Provide fastening plan meeting a minimum of 90 mph wind or per code whichever is more restrictive.
3. High quality, paintable caulk at all panel joints and all others, exterior only for office, interior and exterior in garage. Architect will specify – NO SUBSTITUTIONS.
4. “Backer” in joints.
5. K-Guard brand 6-inch oversize gutter continuous at rear of building if gutters are used.
6. Vapor Retarder/Air Barrier under the office area slab shall be provided.

Division 8 – Openings

1. Doors Frames shall be welded with reinforcement for door closers. Exterior hollow metal doors shall have closure channel in head of door.
2. Glass Double pane 1/4" thick with 1/2" air space.
3. Summer Daytime U value = .5 with .59 Shading Coefficient for glass.
4. Entrance Door shall be 4' x 7' medium style glass door with side-light and clear anodized metal frames with controlled access.
5. Other exterior doors shall be 3' x 7' solid metal with panic hardware, rain shield above with controlled access.
6. Interior doors shall be 5-ply, solid stain grade– 3' x 7' with ADA compliant lock set or passage set or controlled access.
7. Roll up Doors – Two (2) powered 14 feet wide by 16 feet high, insulated, 20-gauge, standard color.
8. Windows shall be manufacturer's standard color low-e, reflective glass. Color to be selected by the County. Please note that there are three different window styles on the plan.
9. The four exterior doors and one secure storage door shall installed with provisions for County provided electric strike, fail secure door latches and door latch monitor sensors that provide primary and secondary notification if left open for certain period of time (notify occupants of building and then notify security console).

Division 9 – Finishes

1. Tile floors shall be 12" x 12" 1/8" Vinyl Composition Tile (VCT) applied with commercial grade low VOC mastic.

2. Interior walls shall extend to the underside of the roof deck and shall be taped and sealed above ceiling. Wall shall be 5/8" drywall on 3 5/8", 26 gauge metal studs, 16" on center. All private offices, toilets, locker room, fitness room, data closet and conference rooms shall have sound rated insulation.
3. Textured exterior Sherwin Williams Ultracrete paint on concrete with painted accent bands.
4. All interior paint shall be no-VOC, eggshell or similar texture and color.
5. Ceilings to be 2' x 2' acoustical ceiling tile throughout except restrooms which shall be painted drywall.
6. 24-ounce or greater carpet tiles in all offices, conference room and community room.
7. Fitness Room floor shall be Spectation by Mats, Inc. or equal. – Heavy duty rubber flooring made from Dual Durometer Vulcanized Rubber with a hammered finish and multicolored speckle design. The tiles are made with 35% pre-consumer scraps.
8. 4-inch vinyl cove base throughout the office portion of the building.
9. Ceiling heights shall conform to **Exhibit D** to the Comprehensive Agreement, except that room 111 shall have a ceiling height of 10 feet, rather than 12 feet as shown on drawing A5.1.
10. Level 3 Ballistic wall in lobby and bullet resistant reception window (2' x 2"). Bullet resistant walls shall be constructed using Armortex Div. of Safeguard Security Systems, Inc. "OF 300" ½ "fiberglass reinforced composite structural flat sheet, or equal, to afford protection from .44 Magnum bullet with 240 grain lead, muzzle velocity of 1470 feet per second tested in accordance with UL 752 ballistic testing (Level 3). Bullet resistant reception window shall be based on Type "G-2" 15/16" glass lites with polycarbonate core equal to Global Security Glazing, Secur-Tem + Poly SP283. Bullet resistant wood door & Frame to be equal to Chicago Bullet Proof "WH Series" meeting UL Standard 752, Level 3. Bullet Resistant Transaction Drawer to be 16 gauge frame with 12 gauge stainless drawer front meeting UL Standard 752, Level 3.
11. Interior wall coating protection in the staff and high traffic areas:
 - a. Kemlite "Glasbord" (or equal from Glasteel, Nudo Products, Inc., or Sequentia, Inc.) Fiberglass-Reinforced Plastic Sheet Wall Covering Material, Semi-rigid, textured, chemical- and stain-resistant, high-food service area, PVC or acrylic-modified vinyl plastic sheet; thickness as indicated; with a minimum impact resistance of 14.0 ft-lbf/in. of width when tested according to ASTM D 256, Test Method A.
 - b. Color and Texture: Embossed finish and color selected by Architect from manufacturer's full range.
 - c. Surface Treatment: Stain-resistant sealer equal to Surfaseal by Kemlite Company.
 - d. USDA Certified for food preparation areas.
 - e. Provide manufacturer's standard; match moldings and trim as required, Sheet Size: 48 inches by length to suit application, Sheet Thickness: 0.090 inch.
12. Vinyl composition tiles (VCT) in the work areas, hallways, locker areas, and bathrooms.

13. Use dark grout for all tiles.

14. Ceramic Tile in Lobby shall be Dal-Tile Porcelato Graniti 12" x 12" tiles CD 40 Grifio Granite" textured Surface or equal.

Division 10 – Specialties

1. Toilet partitions as indicated on drawings.
2. Toilet Accessories and Shower Accessories as indicated on drawings. Two toilets in the women's rest room for staff.
3. 15 full height or 30 half height metal lockers. County can provide up to 50 full height lockers, 12" wide and 18" deep for contractor installation.

Division 11- Equipment

1. Ice maker in the garage shall be a Manitowoc ID-0452A ice maker with a B570 storage bin.
2. One (1) 25 foot flag pole, lighted for 24-hour display of flag(s), with internal halyard, able to withstand 90 mph winds.
3. One (1) exterior monument sign with LED message board with wireless data connection.

Division 12 – Furnishings

1. Anodized mini-blinds at windows, select for full range of standard colors.
2. Architectural metal canopy at entrances per plan.

Division 13 – Special Construction

None at this time.

Division 14 – Elevators, hoisting & conveying systems

None at this time.

Division 15 – Plumbing, Mechanical & Fire Suppression

General:

1. All HVAC equipment has a one-year parts and labor warranty and HVAC compressors have an extended 4 year parts only warranty. All other materials, equipment and labor will be provided with a one year warranty – normal maintenance, wear and tear excepted.
2. It shall be the responsibility of this Developer to install the heating, ventilation, and air conditioning system, so as to insure quiet operation by usual and customary means and methods provided for similar type buildings.
3. The area above the office ceiling will be a return air plenum. All materials and equipment located in this area will be rated such use.

4. Condensate drain piping shall be Schedule 40 PVC. Spill condensate from RTUs on roof. All condensate drains shall be trapped in accordance with the manufacturer's recommendations and Building Code.
5. All insulation materials shall conform to industry standards and the 2009 International Energy Conservation Code (IECC). All hangers and supports shall conform to industry standards.
6. Developer shall coordinate ductwork, conduit, and piping installation with lighting fixtures, special ceiling construction, sprinkler piping air distribution equipment, etc., and provide additional rises, drops, and offsets as required. If installed new ductwork, conduit, or piping is found to be in conflict with architectural or MEP elements, the ductwork, conduit, or piping shall be relocated without additional cost.
7. Air balancing shall be performed by an AABC or NEBB certified contractor.
8. All piping and ductwork is to be installed straight, parallel and plumb with building lines in approximate locations shown on the drawings. Equipment may be relocated slightly to avoid structural and/or equipment conflicts.
9. Provide valves and unions where needed to permit disconnections of each piece of equipment for repairs.

Plumbing:

1. A 1-1/2" domestic cold water piping will be extended to 5' outside of the building. A 1-1/2" reduced pressure backflow preventer will be provided on the CW service inside the building.
2. Four inch sanitary piping will be provided with clean-outs at intervals as required by Code. Sanitary piping will be Schedule 40 Foam Core PVC. Vent piping within the ceiling plenum area will be no hub cast iron piping.
3. Plumbing should be sized for 24/7 operation. Water flow shall be sufficient to ensure sewage moves to the sewage system and designed in accordance with the 2009 International Plumbing Code (IPC).
4. Backflow preventer and hotbox for irrigation.
5. Fire Sprinkler system will be provided for both the office and garage which shall be Ordinary Group 1 Hazard. - Ordinary Hazard with minimum design area of 3,000 sf. Black pipe allowed, welded where allowed by code, victolic coupling otherwise. Use group classification of the office areas is B and the garage is S-2.
6. Isolate copper piping from dissimilar metals such as metal studs. A dielectric union shall be used at connections between ferrous and non-ferrous piping.
7. Plumbing fixtures to be commercial grade - white in color. Water closets will be bladder tank type (American Standard or Equal) with elongated bowls and open front seats. Lavatories will be wall mounted and/or counter mounted as required with single handle faucets. Urinal will be manual flush valve type. Break room sink will be a single bowl 25"x22" stainless steel sink with single handle kitchen faucet. Showers will be fiberglass units with grab bars, seat, hand held

sprayer and shower drain. Janitor's sink will be a 24"x24" pre-molded floor mounted fiberglass basin with wall mounted faucet. Plumbing fixtures will meet the requirements of the Americans with Disabilities Act as necessary. Flow rates will meet the requirements of the 2009 IPC.

8. The electric water cooler will be a Hi/Lo ADA type wall hung unit with Easy Touch push bar controls on the front and both sides. 50 degree F water will be provided at the rate of 8 gallons per hour (Elkay Model EZSTLR8).
9. All domestic water piping above grade shall be Type "M" hard drawn seamless copper water pipe. Copper fittings shall be wrought copper with lead-free soldered joints. Cold water and hot water piping shall be insulated with 1/2" and 1" thick fiberglass insulation with all service jacket, resp. in accordance with the 2009 IECC.
10. Gas piping will be Schedule 40 black steel pipe with threaded black malleable fittings. Gas piping will be extended from the gas meter location to all gas-fired HVAC equipment and an emergency generator.
11. Provide piped primary and overflow roof drainage for the Entrance Canopy.
12. Test all sanitary waste, vent, water, storm and gas piping in accordance with the 2009 IPC and the 2009 International Fuel Gas Code (IFGC).
13. Water hammer arrestors will be provided on domestic water piping serving quick closing valves and as required by the 2009 IPC.
14. Provide trap primer (or Sure Seal trap sealer) at all floor drains to prevent sewer gas from entering the building through P-traps.
15. A 66 gallon electric storage type water heater will provide hot water to all fixtures requiring hot water in the main toilet/locker room area. Instantaneous water heaters will be utilized for the lavatories in the two toilet rooms near the Lobby.
16. Provide two frost-proof wall hydrants – one between the overhead doors and one near the main entrance of the building.
17. Provide a floor drain and cold water rough-in for a full size ice machine (furnished by others).

Office HVAC:

1. All new rectangular ductwork shall be shop fabricated G90 galvanized steel conforming to SMACNA standards for low pressure ductwork. All ninety-degree elbows shall be radius type or rectangular with turning vanes. Ductwork installation will be coordinated with all trades. Hanger assemblies will be in accordance with SMACNA requirements. Provide additional rises, drops, and offsets in ductwork as required. All ductwork shall be sealed as per SMACNA Class C using water based duct sealer.
2. Snap lock round sheet metal ductwork will be provided for low pressure supply, return and exhaust air ductwork 12" in diameter and smaller. Exhaust ductwork 12" diameter or less may be Alumi-flex.

3. Supply air ductwork shall be externally insulated with 1-1/2" thick fiberglass flexible blanket insulation in accordance with the 2009 IECC suitable for use within a ceiling plenum. Return air ductwork will be internally insulated with 1/2" duct liner. Exhaust ductwork will not be insulated.
4. Flexible ductwork will be UL 181 listed and shall comply with NFPA 90A and 90B requirements. Flexible duct will be provided with thermal insulation to meet the requirements of the 2009 IECC. All flexible ductwork connected to diffusers shall not be less than the neck size of the diffuser. Flex duct will be installed in accordance with the manufacturer's instructions.
5. Supply, return and exhaust air ductwork will be sized in accordance with good engineering practice as required for the HVAC equipment provided.
6. Roof mounted HVAC equipment will be provided with the manufacturer's standard flat roof curbs. Sound insulation materials (sheet rock and board insulation) will be provided within the roof curb of the large RTU only.
7. Provide a roof mounted exhaust fan with direct drive motor with internal overloads, manufacturer's standard flat roof curb, backdraft damper and disconnect switch to serve the large toilet rooms. Individual exhaust fans wired to the light switches will serve the two small toilet rooms.
8. Provide a thermostatically-controlled heat removal fan with intake air provided by grilles mounted 6" AFF sized for 20 air changes per hour to serve the Data Closet.
9. In general, supply air devices will be 24"x24" louver faced lay-in diffusers and transfer air devices will be perforated lay-in grilles with off-white baked enamel finish. Exhaust air devices will be surface mounted 1/2" cube core ("egg crate") grilles. Air devices will be selected with NC levels consistent with the occupancy type.
10. Provide a gas-fired RTU with DX cooling, economizer, supply and minimal return air ductwork, insulation, air devices, etc. to serve the main office areas. A seven zone, zone damper system will be included to provide reasonable temperature control based on the exposure and occupancy usage of the spaces. A Therma-fuser will be provided for the small conference room and auxiliary electric heat will be provided for the Women's Locker Room.
11. Provide a gas-fired RTU with DX cooling, supply and minimal return air ductwork, insulation, air devices, etc. to serve the Community Room. Included with this unit are an economizer with CO2 control and hot gas reheat (to provide means for high humidity control).
12. Provide a gas-fired RTU with DX cooling, supply and minimal return air ductwork, insulation, air devices, etc. to serve the Fitness Room. Included with this unit are an economizer with CO2 control and hot gas reheat (to provide means for high humidity control).

Garage Heating & Ventilation

1. Provide one gas-fired unit heater.

2. Provide a wall mounted exhaust fan interlocked two a mill finished motorized intake louver sized to provide Code required minimum ventilation.

Division 16 – Electrical

1. It shall be the Developer's sole responsibility to provide all temporary electrical service as may be required to construct the facility.
2. A certificate of final inspection and approval by an electrical inspection agency, licensed in the State of Virginia, shall be submitted to the County. All required fees, permits, and inspections shall be obtained and paid for by the Developer.
3. All equipment is to be securely installed straight, parallel and plumb with building lines in approximate locations shown on the drawings. Equipment may be relocated slightly to avoid structural and/or equipment conflicts.
4. All work shall be performed in a neat and workmanlike manner in conformance with the Codes and Standards, by skilled mechanics using the best methods known to the trade and shall present a neat and professional appearance when completed. Materials not installed to the satisfaction of the County must be rearranged at no additional cost to the County. All cutting and patching of every nature required in connection with this contract shall be done by the Developer with mechanics experienced in their respective crafts. All patching shall match adjacent finishes. The Developer shall provide the County with a balanced electrical system by arranging the single phase loads as necessary to achieve the balance. Should the power company, or the County, find an unfavorable operating condition as a result of an improper load balance, the Developer shall make such changes as necessary to balance the load without additional cost to the County.
5. Should the County find an unfavorable operating condition as a result of an improper load balance, the Developer shall make such changes as necessary to balance the load without additional cost to the County.
6. Parking Lot Lighting: fiberglass, direct bury light poles, with no more than 0.5 foot candles at property line, 1 foot candle average in parking & driveways, 2 foot candle average for walks and entrances with uniformity ratio as noted in Department of General Services' standard, with LED fixture not exceeding 3500 kelvin.
7. Provide nighttime lighting for flag pole.
8. Install weatherproof GFI receptacles on roof to serve HVAC equipment.
9. Install weatherproof GFI receptacles 18" above grade on building exterior for maintenance. One on each side of building.
10. Approximately 400 Amp, 208/120V, 60 hz, 3 phase, 4 wire.
11. House meter.
12. Downward facing wall-packs or other suitable LED fixtures not exceeding 3500 kelvin.
13. Photo cell to control all lights on house panel.
14. Code minimum emergency lights and exit signs. Emergency lighting shall be connected to the building generator.

15. Typical "office" power distribution and fluorescent lighting averaging 50 foot candles or greater to desk tops in Office & Garage.
16. Six (6) standard garage power drops, plus at least two 50 Amp (250V) receptacles, one on each garage side wall, and at least one 20 Amp (120V) receptacle mounted in the center of the garage.
17. One (1) 75 or 100 KW (400 Amp) natural gas powered, pad mounted generator with shunt trip and transfer switch. Generator shall be capable of powering the entire building, including HVAC equipment.
18. Provide main switches as required per NEC.

Data, Television, Video Surveillance, Card Access, Alarm Systems:

1. At each exterior wall penetration the Developer shall provide one four inch box (reference Hubbell 256 or equal), with low voltage conduit (PVC is acceptable if it conforms to plenum rating) extending to an appropriate location above ceiling, capable of supporting each of the following:
 - b. Video surveillance and access card reader for secure storage.
 - c. Card reader at doors (exterior and interior) as shown on the 50% design floor plan.
 - d. CATV outlets in the conference room (short wall), community room, fitness room, lobby, and the sergeant/ lieutenant area.
 - e. Cameras for the secure storage area, lobby, parking lot, entrance, and rear of the building.
 - f. FIOS connection (County to determine availability).
 - g. Future building automation system.
 - h. Separate split system for data closet.
 - i. Alarmed emergency egress with card reader.
2. Provide 4 four-inch conduits to the property line or utility connection point for data (telecom or fiber) and cable TV, install 3/4" plywood backboards (FRT) in data room. One conduit can be plain; the communication conduit must have four interducts. Provide quazite box at utility connection point. Long sweeping "L's" required.
3. In data closet, install a minimum of four (4) quad receptacles on backboard for provider equipment.
4. Install combination telephone/data outlets using 4 x 4 quad junction boxes (Reference Hubbell 256 or equal), with double gang plaster ring at locations shown on drawings. Use minimum of 1" conduit per data outlet box, up to 2 data feeds and 1 1/4" for up to 4 data feeds). Install pull strings to accessible ceiling spaces and conduit (in block/concrete walls) to accessible ceiling spaces. Provide 1 1/2" sleeve between each room/office and the adjacent corridor. Provide two 4" sleeves to corridor at data room.
5. Wiring, cable, jacks, and equipment for telephone, data, video surveillance, building intrusion alarm, and television systems will be furnished and installed by the County or County vendor. The Developer's electrical contractor shall provide all necessary conduit, outlet boxes, and power, and shall coordinate his work with the County's vendor(s).

Fire Alarm System:

Furnish and install a complete building code compliant fire alarm system.

Provide non-proprietary, addressable, Fire Alarm System which communicates via digital communicator using "Contact ID" communications format, from any of the following manufacturers:

FireLite Alarms by Honeywell
Silent Knight
Edwards

The system shall include, but not be limited to:

1. Provide fire alarm annunciator panel in the Lobby.
2. Smoke detectors in corridors (30' on center), or per code.
3. Pull stations at all points of egress.
4. Combination strobes/speakers in all corridors and ancillary spaces.
5. Heat detectors as required by code.
6. Strobes per code.
7. Duct smoke detectors and remote stations in HVAC equipment.
8. Provide device naming in accordance with Henrico Security Standards. Provide digital fire alarm communicator compatible with Henrico County Fire Alarm Monitoring System.
9. Submit complete system shop drawings including floor plans (showing device locations), equipment cut sheets, riser diagrams, etc. to the fire marshal and to the Architect. Obtain the fire marshal's approval prior to ordering and releasing equipment. Provide "as-built" shop drawings to the County after acceptance of the system by the County. Test the entire system including all smoke and heat detectors in the presence of the fire marshal and instruct the County's personnel in the operation of the system.

Energy Conservation Design Standards:

1. Building exterior envelope shall comply with the envelope requirements of ASHRAE 90A and 90B, and the International Building Code – Energy Conservation Code, latest edition.
2. Walls (gross area)- R-9.5 Mass wall continuous insulation and R-13 Metal framed wall.
3. Roofs (gross area, low slope roof) - R22 (assume 5.56 aged R value per inch of polyisocyanurate roof insulation).
4. Windows shall be double glazed insulating glass, thermal-break, low e coating, maximum window (glass only) U value of 0.35, and maximum shading coefficient of 0.55
5. Slab on grade (heated) R-15, 2 ft. depth (unheated) NR.

END OF PROJECT FEATURES AND CONCEPTUAL SPECIFICATIONS