 FINAL PLAN REVIEW CHECKLIST

 January 22, 2016

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# COVER SHEET

\_\_\_ Project Title

\_\_\_ City project number and KDOT project number if applicable

\_\_\_ Signature Block “City Engineer, Date”

* Other City (if applicable)
* CARS (if applicable)

\_\_\_ Plans sealed by licensed engineer

\_\_\_ Index of sheets (check page numbering)

\_\_\_ General Location Map with bar scale and north arrow

\_\_\_ Design Designation

\_\_\_ Utility contacts name, address and phone numbers

\_\_\_ Legend (may also be shown on the sheet with General Notes)

# GENERAL NOTES

\_\_\_ City standard general notes

\_\_\_ Project specific general notes

# SUMMARY OF QUANTITIES & RECAPITULATION OF QUANTITIES

\_\_\_\_ Recapitulation table showing all bid items, units and quantities

* Bid items, units, quantities match contract bid sheet(s)

\_\_\_ All bid items are covered by a specification in the contract documents

\_\_\_ All bid items and units match those shown in the specifications

\_\_\_ Individual summary table for each bid item

\_\_\_ Earthwork table and calculation notes (if applicable)

# SURVEY REFERENCE SHEET

\_\_\_ General location map showing Horizontal Control Points, Benchmarks and Section Corner locations.

\_\_\_ A table listing project Horizontal Control Points with description and northing and easting coordinates.

\_\_\_ A table listing project Benchmarks with description and elevation.

\_\_\_ A table listing Section Corner ties with description and northing and easting coordinates.

\_\_\_ Survey reference notes such as coordinate system, conversion factors and information sources.

\_\_\_ A table listing alignment centerline data may also be included on this sheet or separate sheet.

# TYPICAL SECTIONS

\_\_\_ Current standard typical sections shown for each roadway type (thoroughfare, commercial, collector, residential).

\_\_\_ Pavement and subgrade type, width, thickness and curb type

* Curb type per Concrete Curb & Gutter standard detail
* Underdrain per standard detail

\_\_\_ Median and parkway width

\_\_\_ Verify sidewalk type (concrete/asphalt), width, cross slope, thickness and location (left, right or both).

* Reference Greenway Linkage Plan for proposed bike/hike trail locations

# STREET PLAN AND PROFILES

***Plan View:***

\_\_\_ Scale: 1” = 20’ Horizontal

\_\_\_ North arrow

\_\_\_ Existing topo shown and labeled on plans

* Edge of pavement, curb and sidewalk
* Structures (buildings, bridges, culverts, catch basins)
* Signs, Fences, Trees, Bushes, Mailboxes
* Retaining Walls, Landscaping
* Contours
* Ponds, Streams, Ditches, Swales with flow arrows
* Utilities (gas, power, water, cable, fiber optic, sanitary sewer, storm sewer, lighting)
* Sewer Lateral Field

\_\_\_ Centerline data shown (stationing, bearings, pt's, pc's and curve data)

* Centerline tied to sections corners

\_\_\_ Proposed geometric improvements shown

* Geometric design in accordance with AASHTO, Overland Park Municipal Code, Standard Details and Specifications
* Adequate horizontal curves
* Adequate curb return radii
* Driveway and driveway wings drawn per standard detail
* Geometric features labeled, shaded and depicted according to the legend
* Handrails shown on retaining walls or culvert headwalls as required
* Culverts length sufficient for full street and sidewalk section
* Section/Fractional Section corner markers disturbed shown to be reset
* Trees marked as (DND) do not disturb if possible or (X) remove
* Existing features marked (R) or (X) for removal
* Visit Site. Do details conflict with existing conditions

\_\_\_ Proposed improvements dimensioned

* Project Centerline distance to Section Line (if different)
* Roadway width from centerline to outside lane back of curb
* Pavement width back to back of curb
* Median width back to back of curb
* Parkway width back of curb to sidewalk
* Sidewalk width and sidewalk radii if on a curve
* Driveway width
* Curb return radii at back of curb
* Median nose radii at back of curb
* Turn bay reverse curve radii at back of curb

\_\_\_ Proposed improvements station/offset labels

* Back of curb pt's, pc's, transitions, start/end
* Sidewalk pt's, pc's, transitions, start/end
* Median nose locations
* Driveway centerlines
* Retaining wall begin and end
* Match points at existing features
* Provide street intersections station and skew angle
* Riprap construction note with station/offset, quantity, gradation and thickness

\_\_\_ Proper curb types used and labeled according to typical sections

\_\_\_ Tract Numbers, Owner Names, Abbreviated Legal Descriptions, Property Lines with common ownership symbols, Plat Names

\_\_\_ Location of City project sign shown and detail included in the plans

* CARS sign location with detail, if applicable (do not use on federal funded projects)

\_\_\_ Sidewalk locations shown

* Thoroughfares – 5 foot concrete sidewalk both sides or 10 foot asphalt bike/hike trail one side according to Greenway Linkages Plan
* Local streets– 4-foot concrete sidewalk one side or match existing
* Collectors/Commercial – 4 foot concrete sidewalk – both sides or match existing
* 4-foot walks only – passing squares shown maximum 200-foot spacing
* Sidewalks across islands as necessary, and provisions to construct in unusual situations
* Median noses pulled back, if possible, to allow for straight crosswalks across intersections

\_\_\_ Street crossing conduit sleeves shown for street lighting, traffic signal, irrigation and utilities

\_\_\_ Existing R/W and existing public and private easements shown and dimensioned

\_\_\_ Proposed Right-of-Way and Easements shown with station/offset labels

* Adequate right-of-way to cover proposed construction
* Adequate easements to cover proposed construction
* Adequate utility easements to cover proposed utility relocations
* Storm Sewer Drainage Easements – 20-ft min or Pipe O.D. + 15 feet rounded up to nearest 5 foot
* Storm Sewers located in a Drainage Easement or Right-of-Way.
* If proposed improvement are shown within existing easements check easement language for proper use/rights

\_\_\_ Storm sewer structures (inlets, manholes, junction boxes, storm water treatment units)

* Structure construction note with structure number, station/offset, size, type, upstream pipe length, pipe size, pipe type and direction
* Adequate wall clearance for pipes
* 4 foot minimum length, width, and depth
* Verify inlet transition lengths (upstream, downstream, sumps)
* Inlet transitions should not be within 5 foot of a curb return P.T. or P.C.
* Large or special storm sewer inlets poured in place
* Private storm sewers are labeled as such
* Pipe entrances 24" or larger shown with bar grate (Noted to Bar Grate Inventory File)

\_\_\_ Box Culverts (see Box Culverts Section)

\_\_\_ Grading of swales to area inlets shown on plan, 2% minimum grade for swales, ditches

\_\_\_ Underdrains shown with connections to storm sewer structures

\_\_\_ Boring locations shown and labeled

***Profile View:***

\_\_\_ Profile Information

* Scale: 1”=20’ Horizontal, 1"=5' Vertical
* Existing/Proposed Elevations at 20-ft intervals
* Street longitudinal slopes: 1% min grade, max grades see UDO 18.030.080 and OPMC 18.460.110
* Profile Grade should be street centerline. Thoroughfare centerline should follow section line. Thoroughfare profile grade is the projected top of pavement of left and right lanes.

\_\_\_ Vertical Curve Information shown

* Station and elevation - PVI, PVC, PVT, G1, G2
* Length of vertical curve
* Stopping Sight Distance (SSD) and K values – Min SSD - see UDO 18.030.080 and OPMC 18.460.110
* Grade breaks at intersections (stop locations on local residential side streets only) 5% algebraic grade difference recommended maximum

\_\_\_ Existing ground line shown and labeled

\_\_\_ Boring log stratification layers hatched and labeled

\_\_\_ Storm sewers crossing shown that cross profile grade

\_\_\_ Check vertical curve length. Does it provide adequate longitudinal drainage?

# DRIVEWAY PROFILES

\_\_\_ Scale: 1” = 20’ Horizontal, 1" = 5' Vertical

\_\_\_ Driveway Station label

\_\_\_ Profile station and elevation labels at PVI, PVC, PVT

\_\_\_ Profile grade labels

\_\_\_ Cross slopes across sidewalks/bike paths shown at 1.00%

\_\_\_ Existing ground line

\_\_\_ Additional grade breaks or curves added beyond ROW to avoid extreme grade changes at match points

# INTERSECTION DETAILS / SIDEWALK RAMP LAYOUT DETAILS

\_\_\_\_ North arrow and scale

\_\_\_\_ Scale – 1” = 10’ horizontal works well for intersection detail, 1” = 5’ works well for sidewalk ramp layout detail. See [example sheet](file:///K%3A%5CLibrary%5CPlans%5Cimages%5CTH-0496%5C039-Intersection%20Details-154th%20Street%20East.tif)

\_\_\_\_ Curb return radii dimensioned at back of curb

\_\_\_\_ Islands and non-typical features dimensioned at labeled

\_\_\_\_ Curb returns

* Radius center point station, offset and delta angle of quarter points
* Quarter point elevations shown at back and lip of curb
* Curb drops for ADA ramps stationed/elevations shown
* 1.0% minimum grade crossing asphalt streets required
* 0.5% minimum grade on curbs
* No valley gutter across collectors
* Dry curb indicated where necessary
* Curb types indicated (use Type B curb for islands)

\_\_\_ ADA Ramps – Required on Public Streets to Public Streets

* Truncated Domes for private driveways provided as follows:
	+ For private driveways that are signalized, or expected to be signalized in the future - Truncated Domes are required.
	+ For private drives that connect to public streets and utilize a standard concrete commercial drive approach - Truncated Domes are Prohibited (unless signalized – previous bullet)
	+ For private drives that connect to public streets and do not have a concrete drive approach Truncated Domes are required.

\_\_\_\_ ADA ramps – slopes shown – along top of landing, pan, and ramp

* Verify positive drainage
* Slopes conform with ADA ramp details
* Verify cross slope from top of landing to adjacent curb
* Station, offset, elevation shown for components of ramp
* Detectable warning surface and pattern shown where required

\_\_\_\_ Drainage arrows shown

# STANDARD DETAILS

\_\_\_\_ Entire detail must be included – do not re-arrange or piecemeal detail

\_\_\_\_ Check for usage of current [Standard Details](http://www.opkansas.org/doing-business/civil-engineering/construction-details/) – updated annually

\_\_\_\_ Customized or non-standard details must not use City title block

# STORM SEWER PROFILES

\_\_\_\_ Scale: 1”=20’ Horizontal, 1"=5' Vertical

\_\_\_\_ Structures:

* Structure numbers indicated
* Station/offset indicated
* Size/type of structure indicated
* Invert elevations in/out indicated
* Top elevations indicated. For curb inlets two front face corners along road. For area inlets all four corners.
* Curb inlet tops sloped to match R/W grading and longitudinal roadway slope
* 4-foot minimum length and width
* 4- foot minimum structure depth (top to lowest invert out).
* Top of pipe doesn’t encroach into inlet throat
* If L+H or W+H >20 feet a structural design required
* Adequate vertical drop (0.2 ft min for straight through (<22 degrees) flows, 0.5’ min for other conditions including multi-inflow pipes, size transitions etc)
* 8-foot maximum curb inlet width
* HGL elevation in each structure indicated

\_\_\_\_ Pipe profiles:

* Minimum 10%-design storm HGL contained; 1%-design checked for overflow path
* Profile required for all storm sewers
* Line number indicated
* Line length, material, slope, invert elevations indicated
* Prior to excavation for pipe installation the fill area shall be placed and compacted 2 foot above top of pipe. This area should be hatched in the profile view and a note provided.
* For structures with two or more pipe connections – provide pipe orientation
* Existing/proposed ground line indicated
* Minimum cover – 18 inches (APWA 5606.6)
* Class III RCP pipe required - CMP/HDPE not allowed
* Cover exceeding 12-feet – check if Class IV pipe is required due to earth loads
* Maximum pipe run length between manholes is 500 ft (APWA 5604.5)
* End sections draining into enclosed system include protection grate for pipes 24-inch and larger
* RCP Installation standard detail included in the plans
* Flowable fill required for under pavement in ROW

\_\_\_\_ Outlets

* Grade for positive drainage shown
* Flowline indicated for end of pipe
* Adequate outlet protection shown, labeled and dimensioned (riprap, grouted riprap, turf reinforcement)
* Last pipe section at the smallest grade possible to reduce outlet velocity (3 fps minimum velocity, 0.5% min slope)
* Discharges to natural streams meets APWA 5605.6 requirements (location/skew etc)
* Discharges to streams/lakes/ponds at normal pool elevation (no submerged/elevated outlets)
* Safety Handrails provided for pipe inlets/outlets larger than 42” height pipe.
* End section toewall standard detail included in the plans

# DRAINAGE MAP AND CALCULATIONS

\_\_\_ Scale: 1”=100’ or larger for onsite areas (smaller scale allowed for large offsite drainages)

\_\_\_ North arrow

\_\_\_ Proposed roadway improvements shown on map

\_\_\_ Existing road edge beyond proposed improvements shown on map

\_\_\_ Existing buildings shown on map

\_\_\_ Existing and proposed storm sewers shown on map

* Structure Numbers labeled
* Private storm sewers are labeled as such

\_\_\_ Existing/proposed contours shown

\_\_\_ All onsite/offsite drainage areas shown

* No Significant drainage basin shifting allowed
* Drainage arrows shown for each drainage area
* Acres labeled for each drainage area
* Runoff Coefficient “C” labeled for each drainage area

\_\_\_ Natural Conveyance Swales

* 10% design storm minimum capacity set aside in dedicated tract (residential only) (minimum 30-feet wide)
* 1% design storm overflow system provided
* Drainage Area is between 2-25 Ac
	+ If DA<5Ac, swale may discharge into enclosed system
	+ If DA>25Ac, stream corridor requirements exist
* A minimum of 1.0 foot freeboard between the lowest opening into a building and the EGL of the adjacent flow shall be provided
	+ Accessory buildings are sometimes afforded less protection as approved by the City of Overland Park
	+ Setbacks in accordance with **Design Criteria – Stormwater Treatment – City of Overland Park** (Item D.4.b)

\_\_\_ Street Crossings Storm Sewer Design (APWA 5601.8B)

* Residential Streets – 10 Year (10%) design storm – enclosed downstream system
* Residential Streets – 25 Year (4%) design storm – open downstream system
* Collectors - 25-year (4%) design storm
* Thoroughfares - 50-year (2%) design storm
* All Streets:
	+ 7-inch maximum depth at highest point in roadway
	+ 14-inch maximum depth at deepest point in roadway
	+ Guardrail required 100-yr design flow >250 cfs AND street overtops

\_\_ Drainage Calculation Table included in plans

* 10 year (10%) design storm
* 100 year (1%) design storm overflow system (1 ft freeboard (EGL) required to any building openings)
* Maximum gutter width of spread per APWA Section 5604.2
* Tc based on 100-ft maximum overland flow length (Calcs req’rd for Tc> 5 min)
* Runoff Coefficient “C” conforms with APWA Section 5602.3
* Undeveloped areas - use City “Future Development Plan” land uses to determine future runoff conditions
* Pipe System design storm Hydraulic Grade Line (HGL) at each inlet shown – HGL must remain 0.5 ft below bottom of throat opening for 10% design storm.
* Private storm sewers are labeled as such in the table
* Design evaluated using PIPES program

# BOX CULVERTS

\_\_\_ Box Culvert Plan

* Bridge analysis if span under street is >20 feet (total span including center divider walls). Bridge information must be completed to the City of Overland Park Bridge SOP requirements
* Minimum interior dimensions 5 foot height and width for maintenance access
* Boxes under public/private streets – Provide street/box intersection station and skew angle.
* Bridge Plans will include structure # (to be assigned by Public Works) on box as a plaque and submit bridge registration paperwork
* Location of Bridge Number Plaque shown and detail included in the plans
* Update bridge file - spans 5 feet or over

\_\_\_ Hand Rails Provided

* Standard handrail detail included in the plans
* Chain Link Fence acceptable in lieu of handrail
* Vertical pickets only (Horizontal prohibited) Rail must not pass 4-inch sphere – see IBC for additional guidance

\_\_\_ Maintenance access

* Path to entrance on traversable slope (5:1 or flatter) and 15-feet wide
* Easement provided for maintenance access
* Inlet and outlet of box accessible during low flow conditions (submerged culverts not allowed)
* Energy dissipation pool (when provided) is below flowline of the culvert.
* Provide access every 1000 feet or bend.

\_\_\_ Box Culvert Details

* KDOT details for box acceptable
* KDOT details for wingwall not acceptable – required to be independent structure from box.
* KCMMB 5K Concrete Mix Designs Required
* Wing wall footings below grade frost line (3-6” min depth)
* Provide weepholes for long culvert runs only.
* Expansion joint required between box/wingwall
* Provide external sealing band at precast box joints that meets ASTM 877

\_\_\_\_ Construction Issues

* Provisions for re-routing live streams around box during construction.
* Stream temporary re-routing includes non-erodible materials.
* Temporary culverts sized/placed to not flood upstream property – 50% design storm minimum
* Construction inventory for bridges

# BRIDGES

\_\_\_\_ See [Bridge Design Information](http://ppm.opkansas.org/wiki/images/II-9a.dot) and [Bridge Asset Inventory Procedure](http://ppm.opkansas.org/wiki/images/II-9b.pdf)

 (Project Procedures Manual, Phase II, Task 9)

# EROSION AND SEDIMENT CONTROL PLAN

\_\_\_\_ See [Erosion and Sediment Control Plan Checklist](http://ppm.opkansas.org/wiki/images/ESC_Plan_Review_Checklist.doc)

 (Project Procedures Manual, Phase III, Task No. 9)

# STREET LIGHTS

***Street Light Plan***

\_\_\_\_ City of Overland Park standard symbol legend (must match plan sheet)

\_\_\_\_ Control Center address (Existing and Proposed) shown on bottom right corner of the sheet (address must have “LC” (lighting controller) attached, ex: 9705LC 120th)..

\_\_\_\_ Date of preparation in the Title Block and revision dates

\_\_\_\_ North Arrow and Scale (1”=50’ or larger)

\_\_\_\_ Plan View

* Street names, right of way, and outlines
* Sidewalk/trails (existing/proposed)
* Easements and utilities
* Storm sewer system
* Adjacent subdivision names (existing or unplatted)
* Existing streetlight equipment in adjacent subdivisions
* Subdivision border, property and lot lines

\_\_\_\_ Spacing/Type:

* Local/Residential (28’ b-b)

Spacing: 250’-280’ (225’ min. / 300’ max.)

Pole: 100W post-top with 14’ pole

Foundation: Type R screw-in foundation

* Collector/Residential (36’ b-b)

Approximate Spacing: 180-200’

Pole: 150W post top with 14’ pole (Type R screw in foundation) for residential areas

* Collector/Commercial (36’b-b)

Approximate Spacing: 180-200’

Pole: 150 W cobra-head with 30’ pole (Type T1 screw-in or concrete foundation) for commercial areas

\_\_\_\_ Connecting to existing system

* Provide connection & location construction notes.

\_\_\_\_ Equipment relocations/modification (median breaks, driveways, street entrances and turn lanes.

\_\_\_\_ Proposed pole locations

* at/near property lines
* at intersections (on radius points is preferred)
* at changes of alignment of 60 degrees or more
* on cul-de-sacs longer than 200’ \*(at/near the bulb)
* on the sidewalk side
* 3’ minimum setback
* proper clearance from overhead lines (field check)

*\*Residential Lighting*

\_\_\_\_ Proposed control centers

* Location:
	+ located in U/E out of the R/W (OPMC 18.180)
	+ 5’ setback from the back of curb to the center of the concrete foundation
	+ out of the Sight Distance Triangle (OPMC 18.420.060)
	+ at the property line or with respect to any structure and driveway conflict
	+ maximizing the usage of all 4 circuits
* Consultant to provide approved KCPL power source for the proposed control center
* 2” PVC conduit w/pull string shown/noted from control center to power source
* Type II junction box next to the control center (at maintenances request) w/two 2” HDPE conduits from the control center
* size of pad, orientation of photocell (work pad to the right of the photo cell which is facing north or east)
* circuit number(s) noted

\_\_\_\_ Proposed Junction boxes

* locations (2’ min setback from back of curb & from pole 1’min. from sidewalk and ramp).
* on both sides of street crossings
* designate Type I or II (if greater than 2 or more lines entering/existing cables then specify a Type II) Type I=12”x12”, Type II=12” x18”

\_\_\_\_ 2” Schedule 40 HDPE Conduit - Gray

* installed throughout project unless otherwise noted
* installed 3' from back of curb

***Street Light Details***

\_\_\_\_ Details as Required:

* Breakaway Pole Base Details
* Controller Details
* Electrical Connector Details
* Pole and Luminaire Details
* Pole Foundation Details
* Standard Details/Bill of Materials
* General Notes & Legend

***Special Street Light Details***

\_\_\_\_ NON-TYPICAL details included where applicable

* Single Circuit Control Center – used only in temporary situations as approved by the City.
* On Commercial projects, involving streets over 45 mph, and putting in turn lanes or roadway widening, check for location of advanced detector loops. The 1st one will be approx. 210’ from stop bar and 2nd is 110’. Anytime it is involving 300’ from the stop bar check for loops.

\_\_\_\_ Connection of a new system to an existing system (at a junction box, control center or light pole) shall be completed in the presence of the street light inspector for approval.

\_\_\_\_ Type I junction boxes (supplied/installed by contractor) are to be used at the end of a platted street for future circuits. Junction box field marker will be provided by the City of Overland Park. 2” HDPE SCH.40 with/pullstring shall be installed from the last box/pole on the circuit to this box. The contractor for the next phase of construction will be responsible for pulling cable thought the HDPE conduit for the connection at the existing light pole/junction box.

\_\_\_\_ Modification…delivery of existing equipment to Traffic Services Maintenance facility. (see streetlight disassembly instruction)

\_\_\_\_ Modification…disturbed grassy areas to be re-sodded, medians to be re-seeded.

***Voltage Drop Calculations***

\_\_\_\_ voltage drop calculations required for all new circuits connecting to an existing circuit.

# PAVEMENT MARKING PLAN

\_\_\_\_ May be combined with permanent signing plan

\_\_\_\_ Scale: 1”=50’ with North arrow

\_\_\_\_ Proposed roadway improvements are shown with centerline stationing

\_\_\_\_ Existing pavement is shown in areas that will require new pavement markings

\_\_\_\_ Lane lines, symbols, stop bars, crosswalks, and chevrons are shown and labeled per pavement marking standard details

\_\_\_\_ Lane widths are dimensioned

\_\_\_\_ Stationing provided for beginning, ending, and transitions of lane lines

\_\_\_\_ Stationing provided for location of symbols and stop bars

\_\_\_\_ Pavement Marking standard details included in the plans

# PERMANENT SIGNING

\_\_\_\_ May be combined with pavement marking plan

\_\_\_\_ Scale: 1”=50’ with North arrow

\_\_\_\_ Proposed roadway improvements are shown with centerline stationing

\_\_\_\_ Existing pavement is shown in areas that will require new signing

\_\_\_\_ Signs are shown and labeled per sign standard details

* Street names and block number correctly shown
* Street name signs orientation
* No Outlet signs where applicable
* Speed limits correctly shown
* Object marker locations
* Sign designation numbers correctly shown

\_\_\_\_ Stationing provided for location of all sign posts

\_\_\_\_ Check for sign post conflicts with storm sewers

\_\_\_\_ Sign quantity sheet has been completed correctly

* MUTCD designation
* Sign size and MEP area
* Post lengths, post anchor lengths, anchor sleeve lengths

\_\_\_\_ Traffic barriers at dead ends

* Type III barricades at hazardous locations (i.e. drainageways, embankments, obstructions, etc)
* End of road markers for non-hazardous locations

28-ft street: 3 required

36-ft street: 4 required

\_\_\_\_ Signing standard details included in the plans

# TRAFFIC CONTROL PLAN

\_\_\_\_ Conforms with MUTCD and City of Overland Park [Traffic Control Handbook](http://www.opkansas.org/wp-content/uploads/downloads/traffic-control-handbook.pdf)

\_\_\_\_ Include construction phasing and traffic control notes

* All phases shall outline work days allowed and work times allowed
* All phases shall have traffic management and construction sequence notes
* All phases shall have a typical section showing channelization devices, direction of traffic, lane widths, shy distances from objects, and edge drop off treatments as necessary.

\_\_\_\_ Include overall construction signing for each phase including any necessary detour routes

\_\_\_\_ Plan sheets:

* Scale: 1” = 50’ with North arrow
* Separate sheets for each phase
* Proposed construction for each phase shaded
* Traffic control signs shown with sign designations
* Arrow boards and/or message boards shown as necessary
* Temporary asphalt shown to carry traffic, if necessary
* Temporary gravel entrances shown for private property access, if necessary
* Maintain access to private properties at all times
* Temporary pavement markings shown and labeled
* Direction of traffic arrows shown
* Channelizes shown with spacing requirements
* Crossovers show with applicable notes, if necessary
* Temporary drainage pipes as necessary during construction phasing
* Type III barricades at street closures with proper signing

# CROSS SECTIONS

\_\_\_ Scale: 1”=10’ Horizontal and Vertical

\_\_\_ Cross sections every 50’ minimum

\_\_\_ Stationing of cross section labeled

\_\_\_ Cross sections at all entrance centerlines

\_\_\_ Cross sections at all other points considered critical

\_\_\_ Features shown per typical section

* Curb
* Pavement Structure
* Sidewalk
* Underdrain

\_\_\_ Point of profile grade labeled with elevation

\_\_\_ Cross slopes labeled (conform to standard details)

* Street
* Median
* Sidewalk
* Parkway
* Ditch
* Back Slope

\_\_\_ Storm sewers shown with size/type labeled

\_\_\_ Existing ground shown