



FREESTANDING SMALL CELL INFRASTRUCTURE ROW PERMIT ENTRANCE REQUIREMENTS

Department:	Public Works, Right of Way Services, Engineering Regulatory & Analytics
Authority:	Public Works Rules and Regulations for Encroachments in the Public Right of Way (Dec 15, 2014), and Public Works Utility Plan Review (July 15, 2015); City Charter, Art II; and DRMC, Chapter 49
Document Date:	January 19, 2018
Permits and Applicant Obligations	<p>Where subject to Encroachment permitting requirements by the City and County of Denver Public Works Department, privately owned freestanding OR hybrid cellular/ street light Antenna poles proposed in the public right of way (ROW) where cellular network nodes, antennas, transport facilities or related equipment shall be located upon will be permitted pursuant to these Entrance Requirements. Said equipment shall hereby be referred to as "Freestanding Small Cell Infrastructure".</p> <p>The procedures contained herein combine Public Works requirements for Encroachment Permit and Utility Plan Review (UPR) into a single process that can handle multiple unique Small Cellular Equipment sites with each application.</p> <p><i>Please note that completion of this Process does not substitute or replace any additional permits or approvals that may be required such as Public Works Construction Permitting (including Street Occupancy for construction equipment, Street Cut to cut into the right of way, Erosion Control if over 1 acre of disturbed soil), or specific permitting from affected City departments.</i></p> <p><i>Additional information on where to obtain Construction Permitting from the Dept of Public Works: www.denvergov.org/pwpermits 2000 W. 3rd Ave. 2nd floor, PWPermits@denvergov.org, P: (303) 446-3469</i></p>
Summary of Permitting process	<p>Freestanding Small Cell Infrastructure shall be permitted by following the procedures within this document to obtain a one-time MASTER Tier III Encroachment Resolution (approved by City Council), followed by subsequent applications that will result in Tier II Encroachment permits that reference the Master. Poles are encouraged to be submitted in "Groups" as described below and as such a maximum of one (1) application will be accepted per company program per week. The outcome of each application will be an approved Encroachment Permit (renewed annually) and Utility Plan Review (UPR) that can subsequently be used to pursue City Construction permitting.</p> <p>1st APPLICATION (one-time): Tier III Master Encroachment Permit via City Council Resolution</p> <p>The very first application from any given company or program is required to be for a Tier III Encroachment Permit. The applicant may submit up to 5 unique locations in a first Group that should be generally representative of the forthcoming proposed Freestanding Small Cell Infrastructure of the submitting company. If approved by City Council, the Tier III Encroachment shall result in a Resolution that will establish overall permit language and terms for each company for all subsequent Small Cellular Infrastructure (subsequently referred to as the Master Permit). The timeline to process the Master Permit can range from 3-6 months depending on the responsiveness of the applicant. A recurring Annual Fee of \$200 applies to each pole approved in the Master Permit.</p> <p>ALL SUBSEQUENT APPLICATIONS: Tier II Encroachment Permit combined with UPR</p> <p>All subsequent applications for freestanding Small Cell antenna poles are encouraged to be submitted in Groups of up to 10 unique pole locations each, and will be processed pursuant to this document with the outcome of each as an approved and uniquely numbered Tier II Encroachment Permit. Expected timelines to complete each Tier II Encroachment Permit process are less than 3 months and are highly dependent on the responsiveness of the applicant. A recurring Annual Fee of \$200 applies to each pole approved in each Tier II Encroachment Permit.</p>



<p>Policy for prioritized hierarchy of Small Cellular Deployment</p>	<p>Site Selection – It is the City’s policy to preserve as open, as much as possible, the surface and air above the public right-of-way to keep sight-lines open for public safety, accessibility, enjoyment, and aesthetic purposes. To achieve that end, applications for any new antenna nodes in the City and County of Denver will be evaluated to determine whether all proposed locations meet the following order of placement preference (in order of preference):</p> <ul style="list-style-type: none"> (1) Locate cellular equipment at or onto existing Xcel Energy owned assets. Xcel Energy owns and maintains the majority of utility pole and street light infrastructure within the public ROW of the City and County of Denver. Therefore, the first priority of any antenna node being located in the ROW is to locate on or at one of these locations, either via: <ul style="list-style-type: none"> a. removal and replacement of an existing street light with a combination street light/ cellular antenna pole (also referred to as a “hybrid” pole); or, b. co-locate onto an existing Xcel owned utility or street light pole. (2) If Xcel owned assets do not exist nearby, or arrangement with Xcel Energy is either not realized or feasible at a given location, the applicant may submit for permitting of new Freestanding Small Cell Infrastructure per these Entrance Requirements.
<p>Placement Criteria</p>	<p>All proposed Freestanding Small Cell Infrastructure shall be located:</p> <ul style="list-style-type: none"> A) in no manner or location that obstructs, impedes, or hinders the usual pedestrian or vehicular travel, affects public safety, obstructs the legal access to or use of the public right-of-way, violates applicable law, violates or conflicts with public ROW design standards, specifications, or design district requirements, violates the federal Americans With Disabilities Act of 1990, or in any way creates a risk to public health, safety, or welfare, and; B) to comply with the current version of the City and County of Denver Small Cell Infrastructure Design Guidelines, and; C) preferably closest to the corner of two intersecting streets (outside of Signal Equipment clear zones), within alleyways where feasible, or closest to the common side yard property line between adjacent adjoining properties, and; D) so as not to be located between the perpendicular extension of the primary street-facing wall plane of any single or two-family residential structure and the adjacent street centerline, and; E) so as not to be located within two hundred fifty feet (250’) from any other Freestanding Small Cell Infrastructure (not including Xcel Energy locations), and; F) so as not to be located along the frontage of properties designated as Federal, State or Local Historic Landmarks unless otherwise approved by the City and County of Denver, and; G) so as not to be located along the frontage of City public Parklands (not including Xcel Energy Locations) unless otherwise approved by the City and County of Denver, and; H) so as not to be located in a manner that otherwise obstructs an adjacent property from reasonably accessing ROW in a manner consistent with the purpose or designated access of said adjacent property, and; I) so as not to significantly create a new obstruction to primary and inherently valuable sightline(s) of an adjacent property, (for example, if proposed equipment is located between the front living room windows of a residence and a mountain view plane, or directly between an outdoor restaurant dining area and adjacent parkland), and; J) preferably within the street amenity zone and generally in alignment with existing street trees or utility/ street light poles, if present, and so that no part of proposed foundation is within 1.5 feet from the back of street curb, and; K) generally placed equidistant between street trees, with a minimum separation of 15 feet (or beyond mature drip line, whichever dimension is greater) from center of tree to pole so that no proposed disturbance is within the critical root zone of any tree, and; L) no closer than 5 feet from any low-pressure natural gas line, or 15 feet from any intermediate or high-pressure natural gas line, as can be required by Xcel Energy.



Design Rules

All proposed Freestanding Small Cell Infrastructure shall be designed:

- A) to comply with the current version of the City and County of Denver **Small Cell Infrastructure Design Guidelines**, and;
- B) to **camouflage and conceal** to the maximum extent feasible all proposed equipment within proposed freestanding antenna pole(s) as applicable without use of faux trees, faux landscaping, or other faux decorative items, and consolidate any remaining equipment within approved singular enclosures, and;
- C) to meet the following **size limitations** of equipment:
 - 1. Any new freestanding antenna pole shall be thirty (30) feet or less in total height unless otherwise approved by Public Works. Exceptions to this maximum height will be considered where proposed poles combine multiple uses (antennas and street lighting, for example), or are within areas where adjacent street light pole heights are consistently greater.
 - 2. All antenna and all of the antenna's exposed elements and/ or shroud transitions shall be mounted at the top of the proposed pole with the following criteria:
 - a. All of the antenna equipment be enclosed within a single cylindrical antenna shroud, preferably matching the pole shaft diameter. The maximum permitted diameter of this shroud shall be fourteen (14) inches.
 - b. The antenna shroud shall match pole color, finish, and be as solid as feasible to visually conceal all contents and/ or wiring.
 - c. Once transitioned from the pole shaft, the antenna shroud diameter shall remain consistent.
 - d. The antenna shroud may not exceed a height of five (5) feet, and if the proposed pole is a freestanding antenna & street light pole, this dimension will be measured from the top of the luminaire mast arm attachment point.
 - 3. If the applicant demonstrates that antenna equipment cannot be located as above, a shrouded, externally mounted antenna package may be proposed if previously agreed to by the City. This equipment may not:
 - a. Protrude from the outer circumference of the existing structure or pole by more than two (2) feet.
 - b. Exceed a height of five (5) feet, mounted longitudinally to the pole shaft.
 - 4. All remaining equipment to be located at the pole including radios not mounted at top of pole, electric meters, grounding equipment, cut-off switches, etc. shall be fully enclosed within a base shroud that:
 - a. Is structural to fully support the pole while maximizing equipment volume.
 - b. Is cylindrical with a maximum consistent diameter of sixteen (16) inches not including small architectural banding features. This diameter may be increased on a case by case basis to twenty (20) inches if previously agreed to by the City that the proposed location combines multiple carriers or uses.
 - c. Does not exceed a height of six (6) feet from mounting surface.
 - d. Matches pole color, finish, and be as solid as feasible to visually conceal and lock all contents and/ or wiring.
 - 5. Any equipment attached to node support poles must be mounted so that all parts are at least seven (7) feet or higher above adjacent surface grade.
 - 6. While not preferred, any ground mounted enclosures separate from associated pole, may not be greater than three feet six inches (3'-6") in any dimension, and;
- D) to meet the **visual and aesthetic criteria** detailed in the current version of the Small Cell Infrastructure Design Guidelines, the highlights from which are as follows:
 - 1. Proposed elements of pole are aesthetically matching and consistent with character and height of adjacent poles and street lights or as otherwise approved and agreed to by Public Works.
 - 2. For network nodes or equipment placed on existing poles, the color of the network nodes shall match the existing pole color, such that the network nodes blend with the existing pole, and;



	<ul style="list-style-type: none"> E) so that no generators are required to support power demands for proposed infrastructure, and; F) so that no signage, banner or advertising is located upon, and; G) so that no overhead lines are connected to any new Freestanding Small Cell Infrastructure pole, unless approved by Public Works for temporary maintenance or repair not to exceed ten days. All lines, including power and transport facilities, connecting to a new Freestanding pole mounted network node permitted herein, shall be placed in duct or conduit that is buried below ground to the maximum extent feasible. As an exception, a network node attached to a utility pole may connect to aerial transport facilities for which an attachment right has been granted for attachment to the utility pole by the utility pole owner, and; H) so that while not preferred, that any conduit that must be installed within amenity zones shall be installed at a minimum depth of forty-eight (48) inches below grade, and, I) so that the parent owner of each facility, company pole code identifying information, and emergency telephone number is imprinted/ etched on a metallic plaque not to exceed 4"x6" in size and permanently mounted onto the Freestanding Antenna pole at approximately 4 to 6 feet from ground level so visible to the public and onto any associated ground mounted equipment, in addition to any other signage required by law (e.g. RF ground notification signs), and; J) so that no interference is caused to the City's radio and emergency radio frequencies, wireless network, traffic signal network, or public communications operations. Any applicant must identify the proposed frequency or frequencies to be used by the associated network node(s).
<p>Compliance with Special District requirements</p>	<p>A Special District is an area within the City with a quasi-municipal charter, zoning classification or other City Code designation for which unique design, development and aesthetic standards may be applied uniformly. Examples of Districts include, but are not limited to: Local Maintenance Districts, Local Improvement Districts, and Business Improvement Districts, and others previously established but not noted herein.</p> <p>One resource to identify known Districts within Denver exists here: Link here</p> <p>Public Works is the ultimate authority for approval of infrastructure within the public ROW, however if specific design elements, concealment measures, placement requirements or other aesthetic preferences exist for or a special District that new infrastructure is proposed within, the applicant is strongly encouraged to coordinate directly with said District(s) to propose infrastructure that is consistent with adjacent character of said District(s).</p>
<p>Repair, Removal and/ or Replacement of Antenna Poles or Nodes</p>	<p>As a condition for placement of a Permitted Encroachment, the owner of such encroachment shall:</p> <ul style="list-style-type: none"> A) maintain all equipment and appurtenances in a timely and responsible manner, and; B) promptly repair any damage to the ROW or adjacent private property resulting from the installation, placement, attachment, repair, modification, removal, operation, use, or relocation of a network node and return such property to its original condition, including restoration or replacement of any damaged trees (as determined by City Forester when in ROW), shrubs or other vegetation. The City may opt to perform the repair and charge to the permit holder if the permit holder fails to respond to a notice requiring repair, or when the unrepaired facility is an imminent danger to the public, and; C) remove all graffiti experienced on any of its network nodes, transport facilities, poles, or other property or equipment located in the public ROW, and; D) remove all non-operational or abandoned node support poles, transport facilities, and associated equipment within one hundred twenty (120) days if not operating any equipment upon or following abandonment of the node, and; E) notify Public Works in writing not less than 10 business days prior to removal or relocation if the permit holder or owner removes or relocates a network node at its own discretion. The permit holder shall obtain all permits required for relocation or removal of its network node prior to relocation or removal.



<p>Insurance and Indemnification</p>	<p>During the existence of the Encroachments and this permit, Permittee, its successors and assigns, at its expense, and without cost to the City and County of Denver, shall procure and maintain a single limit commercial general liability insurance policy with a limit of \$500,000.00 for bodily injury and property damage and \$500,000 general aggregate. All coverages are to be arranged on an occurrence basis and include coverage for those hazards normally identified as X.C.U. during construction. All insurance coverage required herein shall be written in a form and by a company or companies reasonably approved by the Risk Manager of the City and County of Denver and authorized to do business in the State of Colorado. All such insurance policies shall be specifically endorsed to include all liability assumed by the Permittee hereunder and shall name the City and County of Denver as an additional insured as its interest may appear under this Permit. All insurance requirements shall be noted on the Master Permit Resolution.</p>
<p>Permit Submittal Requirements</p>	<ul style="list-style-type: none"> ❑ Completed Small Cell Freestanding Antenna Pole Permit application form – (City provided template) <ul style="list-style-type: none"> ▪ Filename "<i>CompanyName YEAR-Group # Application Form.pdf</i>" ❑ Copy of all required insurance and indemnification certificates, as filed with the Manager of Public Works (as required above and as stated on the Tier III Master Permit Resolution) ❑ Current Small Cell Program Group Tracking spreadsheet (City provided template), sorted in same order as other areas of application. <ul style="list-style-type: none"> ▪ Filename "<i>CompanyName YEAR-Group # Master Tracker.xlsx</i>" ❑ Current Small Cell Program Pole Location Map, including: <ul style="list-style-type: none"> ▪ Filename as "<i>CompanyName/WSP YEAR-Group # Location Map.pdf</i>" ▪ Proposed pole(s) included in the current Group application as yellow dots ▪ Previously proposed poles not yet approved (blue dots) ▪ All poles currently constructed or under construction within the company Small Cell program (black dots). ▪ The file shall include an overall City view followed by additional sheets each at a larger scale, centering on separate regions of the City where all poles covered by the Master Permit are proposed (Downtown, West, S, E, NE). ▪ All maps should be set on a background that is NOT an aerial photo, that includes details such as street names, historical and other areas of interest, parks, Parks Dept maintained facilities (such as parkways), waterways, etc. ▪ A Link to public City digital maps is provided here. ▪ A Link to the open City GIS data catalog is provided here. ▪ Links to City Park and Parkway data are provided here and here. ❑ Single PDF of all Address Cards assigned to poles in the submitted Group, as assigned to the proposed pole locations, sorted in same order as submitted in other areas of application. <ul style="list-style-type: none"> ▪ Filename "<i>CompanyName/WSP YEAR-Group # Address Cards.pdf</i>" ▪ Official Address card for each pole as previously obtained from the City ▪ A link to the City Addressing process is provided here. ❑ Pole Location Description Editable Document (Microsoft Word format) document containing a list of all proposed poles and pole codes with a location description for each, including: <ul style="list-style-type: none"> ▪ Filename as "<i>CompanyName/WSP YEAR-Group # Pole Locations.doc</i>" ▪ Approximate location of each pole referenced from official City Street surface features (e.g. the center of which approximately 22.5' south of the western point of curb curvature at the NW corner of the intersection of X and Y streets, and 3.0' from back of curb), and; ▪ Written text of latitude and longitude GPS coordinate. ❑ Radio Frequency Emission Certification for each proposed network node signed by a Telecommunications Engineer certified by the International Association for Radio, Telecommunications and Electromagnetics (iNARTE) or similarly recognized certifying body with experience regarding radio frequency transmissions.



- ❑ **Complete Construction plans** for proposed infrastructure bundled into a single PDF file, formatted to 11"x17", including:
 - Filename "*CompanyName/WSP YEAR-Group # Construction Plans.pdf*"
 - A cover sheet containing scaled City map including all pole locations included in the subject application, a list of each pole location including GPS coordinate and assigned Denver Address, and a legend for all sheets.
 - Each pole represented by a set of plans within the overall file, designed so that if any single pole is removed from the application, the remaining plan set remains valid. Overall sheets including details & notes are encouraged.
 - Each pole plan set shall include the following:
 1. Cover sheet with pole title, name, location, information, and photograph of the proposed location of the pole.
 2. "Required Notes for Each set of Pole Plans" only if unique to the location and as such cannot be part of Overall sheet notes.
 3. Labeled and dimensioned site plan and elevation plan, including the following when applicable:
 - a) Key symbols, ROW lines, property lines, etc.
 - b) Street information including names, curblines, sidewalk, street amenities, vegetation, existing and proposed utilities
 - c) Identification of immediately adjacent property owner(s) and/ or easements
 - d) Structural Plans for pole and associated foundations that reference structural calculations and include depth, diameter, grounding, reinforcing, Class B 4,500 psi concrete
 - e) Alternately, if CCD had previously accepted structural plan set covering all poles included under the Master Permit, that may be simply referenced, or included as Overall sheets
 - f) Labeled construction materials, color, finish, etc.
 - g) Pole dimensions and total max height from adjacent grade
 - h) Size and dimension of any projection(s) from pole
 - i) Proposed voltage, maximum transmission wattage, radio frequency and Microwave expulsion for all equipment associated with each pole, as allowed under FCC regulations
 - j) Detail of proposed communication conduit and electrical connection location (if known)
 - k) Typical conduit / duct bank installation section detail
 - l) All existing utilities:
 - 1) Storm & Sanitary Sewer pipes and appurtenances
 - 2) Any utilities 24" and greater depicted as double-lines
 - 3) Gas line (indicate size, High Pressure, services, etc).
 - 4) Electric lines (Indicate power pole #, anchor pole, overhead line, and duct bank –actual dimensions)
 - 5) Water infrastructure incl valves, fire hydrants, etc
 - 6) Adjacent private service line locations where known
- ❑ **Appropriate pole and foundation structural calculations**, signed and stamped by a Colorado Licensed Professional Engineer (PE), to the most stringent of the following design standard(s):
 - AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals (AASHTO LTS), 6th Edition, with 2015 Interim Revisions
 - 115 mph minimum (to meet TIA-222 rev G., ASC 710 with IBC 2012) and amendments for local conditions. (ACI 318-11, 318-14 for foundations). Ref Denver front range case study
 - State specific DOT Standard for Pedestal Poles, or equivalent standard that considers Colorado applications, wind loads, etc.
 - Commercial criteria (from pole manufacturer)



<p>Permit Fees</p>	<ul style="list-style-type: none"> ❑ Processing & Permit Fees, paid separately, as follows: <ul style="list-style-type: none"> ▪ Encroachment Permit Processing fee, due at time of application: <ul style="list-style-type: none"> \$2,100.00 if Tier III Master Encroachment Resolution; or, \$1,500.00 if Tier II Encroachment Permit ▪ Utility Plan Review Processing fee, due at time of application: <ul style="list-style-type: none"> If 1 new pole location = \$320.00 If 2 new pole locations = \$640.00 If 3-10 new pole locations = \$1,000.00 ▪ First year Annual Encroachment Permit fee, due at time of application or prior to issuance of Permit <ul style="list-style-type: none"> \$200.00 for each pole included in the approved Permit. Note the first year fee covers the time period starting from permit issuance to the next annual Permit billing cycle (Spring each year), and is not prorated. Annual permit fees shall be billed at \$200.00 for each pole included in the original approved Permit. ▪ Payment options (please note that once paid, all fees are non-refundable): <ul style="list-style-type: none"> a) Credit card – Discover, Master Card and Visa b) Over the phone credit card payment available upon request c) Checks or Money Order, payable to the “Manager of Finance”
<p>Application Submittal Options</p>	<p>All submittals for Small Cell Infrastructure Permit applications to the City of Denver Public Works Department shall be made electronically:</p> <ul style="list-style-type: none"> ❑ Send an email to: Denver.PWERA@denvergov.org <ul style="list-style-type: none"> ▪ Email Subject: “<i>CompanyName Small Cell Group # – 1st/2nd, etc Submittal</i>” ▪ If the total size of all files to submit is less than 15MB in size, please attach to the email and send. ▪ If the total size of all files to submit is greater than 15MB in size, please note that one of the following file submittal methods were used: <ul style="list-style-type: none"> ▪ via Denver FTP using following credentials: <ul style="list-style-type: none"> ○ https://exteft.denvergov.org ○ Login: PWDIST, Pswd: DenverPW#1 ○ Select all files for transmittal and drop them into FTP tool where indicated. It is not necessary or recommended to create sub-folders within the FTP tool. Ignore errors ▪ via DropBox, using your own account, with link provided
<p>Permitting process for Fiber/ Power conduit if not included with Encroachment Permit process</p>	<p>The process described in this document was designed for permitting Freestanding Small Cell Infrastructure that will be owned by the wireless infrastructure provider. Associated fiber optic and power conduit may be included in each application, but if so, the included designs must be complete. If fiber optic or power conduit associated with any Freestanding poles is expected to be submitted separately, permitting of same can be handled as follows:</p> <ul style="list-style-type: none"> ❑ Prepare all conduit design into a Utility Plan Review (UPR) application ❑ Combine together conduit to align with the corresponding Group of Freestanding Antenna pole locations. The associated Freestanding pole Group Encroachment Permit number should be noted on the plan. ❑ Include in each application only what a single Contractor will construct. This is because once approved, the UPR will then be used to submit for PW Construction Permitting, the permits for which are directly tied to a single licensed contractor.



<p>Resubmittal Process</p>	<p>During the application process, the application materials will be circulated for regulatory and agency review. At the end of each review cycle, the applicant must evaluate and formally respond in writing to any comment(s) received.</p> <ul style="list-style-type: none"> <input type="checkbox"/> The City will direct you in writing if a Resubmittal is required, as it was determined that one or more comments received demonstrated technical merit. <input type="checkbox"/> Please note that if any single pole location within the application is denied, the Group is denied, until the subject comment is resolved in writing by the original reviewer, or the subject pole is removed from the Group. <input type="checkbox"/> Additionally, should any plan revision result in any pole being relocated greater than two (2) feet in any direction, a formal Resubmittal of the Group will be required. <input type="checkbox"/> If shown, revision of associated electric or fiber optic facilities to any pole will require a formal Resubmittal if same or its appurtenances are moved laterally or otherwise materially changed in location. <input type="checkbox"/> When a Resubmittal is required, resubmit all required documents described in application process above, as revised, with a Comment Response Matrix acknowledging any comment(s) received, with formal written response to each. A suggested Matrix format will be provided upon request. <ul style="list-style-type: none"> ▪ Please make appropriate changes based on each pertinent comment (denied, condition and/or approved). Please note what changes were made, and what pages they were updated on. • The applicant may request at any time to remove any individual pole locations from the application Group before Resubmittal or Final Submittal. Upon removal, all application materials must be resubmitted with the site removed. This action can allow the application with remaining poles to proceed without delay. <input type="checkbox"/> Document Naming Convention for Resubmittals: <ul style="list-style-type: none"> ▪ <i>"CompanyName YEAR- Group # - Resubmittal Application and Letter.pdf"</i> ▪ <i>"CompanyName YEAR- Group # - Resubmittal Construction Plans.pdf"</i> ▪ <i>"CompanyName YEAR- Group # - Resubmittal Address Cards.pdf"</i> ▪ <i>"CompanyName YEAR- Group # - Resubmittal Master Tracker.xlsx"</i> ▪ <i>"CompanyName YEAR- Group # - Resubmittal Pole Locations.doc"</i> ▪ <i>"CompanyName YEAR- Group # - Resubmittal Location Map.pdf"</i>
<p>Final Submittal Process</p>	<p>Once the applicant has resolved all comments to the satisfaction of the City, you will be prompted to submit a final set of all documents for approval. This will include:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Final plan set, PE signed and stamped, including: <ul style="list-style-type: none"> ▪ Comment Response Matrix <input type="checkbox"/> All application materials reflecting final updates with the following: <ul style="list-style-type: none"> ▪ Any changes to Program Tracking Spreadsheet ▪ Any changes to official issued City addresses ▪ Any changes to Location descriptions or Latitude/Longitude ▪ Proof of written notice to adjacent property owners at each location, announcing proposed pole, where plans can be obtained, and to whom on behalf of the application any comments/ concerns may be given. <input type="checkbox"/> Any remaining required fees not yet paid including first Annual permit fee <input type="checkbox"/> Document Naming Convention for Final Submittals: <ul style="list-style-type: none"> ▪ <i>"CompanyName YEAR- Group # - Final Application and Letter.pdf"</i> ▪ <i>"CompanyName YEAR- Group # - Final Construction Plans.pdf"</i> ▪ <i>"CompanyName YEAR- Group # - Final Address Cards.pdf"</i> ▪ <i>"CompanyName YEAR- Group # - Final Master Tracker.xlsx"</i> ▪ <i>"CompanyName YEAR- Group # - Final Pole Locations.doc"</i> ▪ <i>"CompanyName YEAR- Group # - Adjacent Owner Notices.pdf"</i> ▪ <i>"CompanyName YEAR- Group # - Final Location Map.pdf"</i>



Required Notes for each set of Pole Plans

GENERAL NOTES

1. All current Transportation Standards details shall be followed
2. The applicant and contractor are responsible for obtaining all project permits associated with construction and related activities such as Street Occupancy, Street Cut, Construction, Erosion Control and Parks Permits.
3. The contractor should remove materials and equipment from the ROW by the close of daily operations.
4. No work shall be permitted at night or on Saturdays, Sundays, and holidays or as restricted by City Noise Ordinance without prior authorizations or unless otherwise specified in this permit. City may restrict work on ROW during adverse weather conditions or during periods of high traffic volume.
5. The contractor shall maintain at least one copy of the approved plans, specifications, and standards on the job site at all times.
6. The contractor shall notify Public Works Right of Way (PW ROW) Construction Inspections at (303) 446-3469 or PWPermits@denvergov.org: 1) two days before commencing work in the ROW; 2) when suspending operations for 5 or more working days; 3) two working days before resuming suspended work; and 4) upon completion of work.
7. The applicant and contractor are responsible for being aware of, notifying, coordinating, and scheduling all inspections required for final approvals and project acceptance.
8. All work, including correction work, is subject to notification and inspection.
9. In the event that an emergency repair to existing facilities is necessary, the PW ROW Construction Inspections shall immediately be notified via telephone at (303) 446-3469. Emergency procedures shall be coordinated beforehand, where possible, and no work will be allowed until notification is received. The telephone notification must be followed up with a letter to PW ROW Construction Inspections as soon as possible.
10. All trenches shall be adequately supported and the safety of workers provided for as required by the most recent Occupational Safety and Health Administration (OSHA) "Safety and Health Regulations for Construction." These regulations are described in subpart P, Part 1926 of the Code of Federal Regulations. Sheeting and shoring may be utilized where necessary to prevent any excessive widening or sloughing of the trench. The contractor may be required to use an approved piling instead of sheeting and shoring. The contractor shall accept sole liability and responsibility for complying with the current OSHA regulations applicable to all work.
11. All work will be properly backfilled prior to the end of the workday; no open holes and/or trenches are allowed overnight. All work is to be in accordance with permit requirements and applicable standards.
12. Where consistent with safety and space considerations, excavated material is to be placed on the uphill side of trenches.
13. All potholes must be core drilled or saw cut to 2' x 2'.
14. Unless confined in a predefined berm containment area, the cleaning of cement delivery chutes is prohibited at the job site. The discharge of water containing waste cement to the storm sewer system is prohibited. (DRMC §. 56-102 (a.)(c.))
15. Where ROW fences need to be removed or cut to facilitate construction, approval must be given by PW ROW Construction Inspections before work is performed. Existing line must be established by good survey practices. The contractor will supply and install new materials required to restore fence to acceptable condition. New posts and wire will be required including corner posts for gates placed in locations as determined by the original survey. Fences will be replaced according to fencing standards of the Public Works Department.
16. If livestock is present in the area of fence removal, a temporary fence, equivalent to the existing, will be required to contain livestock until new fence is in place; temporary fence will then be removed.
17. Utility Plan Review approval does not constitute approval for any work on, in, under, or over private property.



ROADWAY NOTES

1. Construction of any portion of the public roadway, including the pavement structure, subsurface support, drainage, landscaping elements, and all appurtenant features, shall comply with the provisions of the most current version of the City & County of Denver Rules & Regulations, City standard specifications, and standard details.
2. Material removed from any portion of the roadway section must be replaced in accordance with the Public Works Rules & Regulations Governing Street Cuts.
3. The contractor is responsible for providing and maintaining adequate traffic control throughout the project, including proper traffic control devices and/or personnel as required. A traffic control plan is subject to CDOT and/or PW ROW Construction Inspections for approval prior to commencing work on public ROW. A copy of approved traffic control plans must be available on site during work. Traffic control to be in accordance with the most recent version of the Manual on Uniform Traffic Control Devices (MUTCD), Section VI.
4. The traffic control plan must include protective measures where materials and equipment may be stored on ROW.
5. Prior to final acceptance, all disturbed portions of ROW shall be cleaned up and restored to their original condition, subject to City approval.
6. No cleated or tracked equipment may work in or move over paved surfaces without mats.
7. Restoration is required for any holes or cuts made in walking and/or paved surfaces, including those for test holes or potholing for Investigation activities for any locates.
8. Any potholes drilled into sidewalks will require full panel replacement. Permanent patching of potholes or cuts is also required in asphalt pavements, and for concrete pavement with up to 2 potholes. When 3 or more potholes exist, then full street panel replacements are required. All restoration shall be per City and County of Denver Transportation Standards and Details. Contact PW Construction Engineering at 303-446-3469 if more information is requested.
9. When an existing asphalt street is cut, the street must be restored to a condition equal to or better than its original condition. The existing street condition shall be documented before any cuts are made; patching shall be done in conformance with the Public Works Rules & Regulations Governing Street Cuts. The finished patch shall blend smoothly into the existing surface. All large patches shall be paved with a self-propelled asphalt paving machine.
10. The contractor shall protect all storm sewer facilities adjacent to any location where any pavement cutting operations involving wheel cutting, saw cutting or abrasive cutting is to take place.
11. The contractor shall remove and properly dispose of all waste products generated by said cutting operations on a daily basis.
12. The discharge of any water contaminated by waste products from cutting operations to the storm sewer system is prohibited.

UTILITY NOTES

1. **Caution:** Location of existing utilities is shown according to the best information available as supplied by the utility providers including type, size, location and number of utilities. Prior to date of construction contractor shall verify existing utilities with the Utility Notification Center of Colorado (UNCC) and/or utility companies. **For additional information contact: UNCC at 1-800-922-1987.** The contractor shall verify existence, size, and location of existing utilities and facilities prior to construction and shall notify the engineer of any discrepancies.
2. Prior to commencement of construction, the contractor shall contact all utilities to coordinate scheduling. Should any conflicts, reconstruction, or other interruptions in service be required, contractor shall coordinate utility scheduling.
3. The applicant shall correctly show on submitted drawings the locations of all utilities in the vicinity where the applicant may bore, trench, excavate, and install conduit, fiber, fiber enclosures, vaults, and handholds. In the event that the conduit run, fiber enclosures, vaults, or handholds are located within the vicinity of any utility, the applicant shall be responsible for the design and installation that will prevent damage to the installation under normal utility operating conditions. It is the responsibility of the applicant to obtain information on each of the utilities as applicable such as gas pressure, steam and water pressures, temperatures, etc.



4. It is the responsibility of the applicant to examine the site for evidence of failures of or deficiencies in utility company facilities (i.e. Xcel, Denver Water, Denver Public Works, WMD, etc.) and to immediately call any such evidence of pre-existing damage to the attention of the utility company along with proper documentation. The applicant hereby agrees that the repair of any and all damages (direct or indirect), that may be subsequently discovered and proven to have been caused by the construction activities, is the sole responsibility of the applicant without such evidence of pre-existing damage. The applicant hereby agrees that any and all damages (direct or indirect) to utility company facilities, which may be subsequently discovered within those areas where construction occurred within six feet of utility company facilities (direct or indirect), and within a period of three years from the date of construction, were caused by the construction activities. Furthermore, the repair is agreed to be the sole responsibility of the applicant. It shall be the applicant's responsibility to protect all utility company facilities within the area of construction. This includes all steps necessary to prevent subsidence of the soil adjacent to or near utility company facilities.
5. Any casing or sleeve so installed under the roadway shall be the same diameter as the bore so as to eliminate a void around the casing. In the event jacking operations result in voids, the resultant voids shall be grouted or otherwise backfilled, subject to City approval. Ends of bored sections shall not be covered before being inspected.
6. The contractor/applicant shall clearly identify owner name & contact info on all new access or manhole covers.
7. For all manholes in asphalt streets, add a 2" riser ring directly under the cover to facilitate future rotomill/overlay operations.

DENVER WATER NOTES

1. The contractor shall notify Denver Water at (303) 628-6682 prior to any construction that could affect or disturb a Denver Water facility.
2. Applicant assumes full responsibility for all damages incurred to Denver Water facilities due to activities authorized by the approved plans.
3. Denver Water, at the sole expense of the applicant will make all replacement or repair of Denver Water facilities attributed to the work.
4. In the event the applicant's facilities are damaged or destroyed due to Denver Water's repair, replacement and/or operation of its facilities, repairs shall be made by the applicant at its sole expense.
5. Adding fiber optics to an existing duct not previously permitted requires the duct to be subject to the aforementioned provisions.
6. Parallel ducts or cable will not be permitted within five (5) feet of a Denver Water facility (mains or conduits), and a minimum of ten (10) feet of clearance is required between potable and non-potable mains (e.g., storm, sanitary, reuse).
7. When crossing a Denver Water main or conduit, a minimum vertical clearance of eighteen (18) inches is required.
8. A Denver Water representative must be present when installation crosses a sixteen (16) inch or larger main.
9. Locates and potholes shall be required for all crossings involving Denver Water facilities including, but not limited to, hydrant lateral runs and service line crossings.
10. In the event of a conflict with requirements, the latest versions of Denver Water's Engineering Standards and Capital Projects Construction Standards shall supersede these provisions.

FORESTRY & LANDSCAPING NOTES

1. Utility Projects that do not go through Forestry review process or do not receive Forestry approval (speaking of the <750LF for the most part); Forestry reserves the right to plant in the PRW and cannot be held liable for any damage that occurs to utility within PRW where utility is not placed at a minimum depth of 48".
2. The Office of the City Forester reserves the right to declare unencumbered space in the PRW for future and replacement PRW trees. Should these areas be violated by any utility, the utility owner shall (re)move utility at owner's expense.
3. The following options shall only be used when all efforts to locate utilities outside of amenity zone/tree planting area/tree lawn have been exhausted:



- a. Location Option 1 (Installation under existing paved surfaces - walks, drives):
 - i. Where paved areas such as sidewalks, driveways, or entry walks exist, dry utilities should be routed within boundaries of these areas to minimize tree-utility conflicts.
 - ii. Where paved areas do not exist, or insufficient space exists within existing pavement boundaries, see options below.
 - b. Location Option 2A (insufficient space is available within paved area boundaries for utility installation):
 - i. Where insufficient space exists within the sidewalk boundary for utility installation, route utilities as close as possible to ROW line or adjacent to back of curb, whichever places utility lines furthest from existing trees or potential planting area.
 - ii. Route utilities off-center from amenity zones, preserving space for tree planting.
 - iii. Utilities installed outside sidewalk or hardscape boundaries must be installed at a minimum depth of 48".
 - iv. Unless all other available space in amenity zone has been encumbered, avoid installing utilities directly under existing trees. Utility lines must be installed min. 48" deep when installing lines under trees.
 - c. Location Option 2B (paved areas do not exist):
 - i. Where sidewalks do not exist, route utilities as close as possible to ROW line or adjacent to back of curb, whichever places utility lines furthest from existing trees/potential planting area.
4. The contractor shall not spray, cut, or trim trees or other landscaping elements within the public right-of-way (ROW), unless such work is otherwise specified or clearly indicated on the approved plans.
 5. Any disturbed landscaping will be replaced to equal or better condition than that which existed prior to work.
 6. Seeding, sodding, and planting shall be as specified or otherwise approved by City. Construction, maintenance, and watering requirements shall conform to the City standard specifications. Where landscape restoration must be delayed due to seasonal requirements, a separate permit may authorize such work.
 7. The City requires compliance with the following when work is necessary / required adjacent to / near trees in the ROW or other public spaces:
 - a. When equipment is working near trees, tree protection fencing shall be erected at or just outside the critical root zone (CRZ = 1' linear radius for every 1" diameter of tree trunk measured at 4.5 feet):
 - i. When this is not possible, contractor must meet with OCF personnel on site.
 - b. No excavation or equipment storage shall occur within the CRZ:
 - i. When work must occur within CRZ, excavation must be performed with hand-tools, air spade, or other OCF approved method.
 - c. Roots 2" or larger shall not be cut, if conflict arises contractor must contact the Office of the City Forester.
 - d. Trenching shall not occur within the CRZ without verifying location of existing roots that may be impacted by excavation:
 - i. Approved root discovery methods include: hand work, air spade, ground penetrating rating, or other OCF approved method.
 - ii. Adjust the route to avoid roots as much as possible.
 - iii. Store soil opposite the tree side of the trench.
 - iv. Backfill quickly and cleanly, and water roots deeply.
 - v. Exposed roots must be kept moist at all times. Cover exposed roots with burlap or other material that will hold moisture against exposed roots.
 - e. Tunneling/directional boring must be at least 48 inches below ground level
 - i. All pit locations must be staked and approved prior to an excavation;
 - ii. Minimize the work pit to no wider than the trench;



8. Should any tree damage occur, contractor shall contact the OCF immediately
9. The City & County of Denver Tree Retention and Protection Specifications must be followed. For a copy of the Tree Protection Specifications please contact the Office of the City Forester at (720) 913-0651 or email at Forestry@denvergov.org.

EROSION CONTROL NOTES

The Owner, Site Developer, Contractor and/or their authorized agents shall ensure that all potential pollutants generated during demolition or construction work associated with this Project, be prevented from discharge to stormwater conveyance systems in the vicinity of this Project Site in accordance with the following:

1. The Owner, Site Developer, Contractor and/or their authorized agents shall prevent sediment, debris and all other pollutants from entering the storm sewer system during all demolition, excavation, trenching, boring, grading, or other construction operations that are part of this Project. The Owner, Site Developer, Contractor and/or their authorized agents shall be held responsible for remediation of any adverse impacts to the Municipal Separate Storm Sewer System, receiving waters, waterways, wetlands, and or other public or private properties, resulting from work done as part of this Project.
2. The Owner, Site Developer, Contractor and/or their authorized agents shall remove all sediment, mud, construction debris, or other potential pollutants that may have been discharged to or, accumulate in the flow lines of storm drainage appurtenances, and public rights of ways of the City and County of Denver, as a result of construction activities associated with this Project. All removals shall be conducted in a timely manner.
3. The Owner, Site Developer, Contractor and/or their authorized agents shall insure that all loads of cut and fill material imported to or exported from this site shall be properly covered to prevent loss of the material during transport on public rights of way. (Sec.49-552; Revised Municipal Code)
4. The use of rebar to anchor best management practices, other than portable toilets, is prohibited.
5. The Owner, Site Developer, Contractor and/or their authorized agents shall implement the following Best Management Practices (BMPs) on site during construction:
 - a. **VEHICLE TRACKING CONTROL:** This BMP is required at all access points for ingress/egress from off-site impervious surfaces to construction site pervious areas that are used by vehicular traffic or construction equipment.
 - b. **INLET PROTECTION:** This BMP is required on all existing or proposed storm sewer inlets in the vicinity of the construction site that may receive site runoff. The BMP must be appropriate to the type of storm inlet and appropriate for the ground surface at the inlet.
 - c. **INTERIM SITE STABILIZATION:** This BMP is required to provide a measure for preventing the discharge of sediment from construction sites where overlot grading or other site disturbance has occurred. This BMP is particularly necessary on sites where construction activities/disturbance will be limited to small areas of the Project site. Acceptable BMPs include:
 - i. Preserving existing vegetation
 - ii. Seeding and planting
 - iii. Mulching
 - iv. Mulching and seeding
 - v. Temporary/Permanent re-vegetation operations
 - vi. Chemical soil stabilizer application (requires WMD approval)
 - d. **WASTE MANAGEMENT/CONTAINMENT:** This BMP requires that all construction wastes, fuels, lubricants, chemical wastes, trash, sanitary wastes, contaminated soils or debris shall be contained on site, protected from contact with precipitation or surface runoff, periodically removed from the construction site, and properly disposed of.
 - e. **SPILL PREVENTION /CONTAINMENT:** This BMP defines the measures proposed for preventing, controlling, or containing spills of fuel, lubricants, or other pollutants; and protecting potential pollutants from contact with precipitation or runoff.



- f. CHUTE WASHOUT CONTAINMENT: Water used in the cleaning of cement truck delivery chutes shall be discharged into a predefined, bermed containment area on the job site. The required containment area is to be bermed so that wash water is totally contained. Wash water discharged into the containment area shall be allowed to infiltrate or evaporate. Dried cement waste is removed from the containment area and properly disposed of.
 - i. The direct or indirect discharge of water containing waste cement to the storm sewer system is prohibited (Sec.56-102a, c; Revised Municipal Code, City and County of Denver).
 - g. SWEEPING: This BMP requires that impervious surfaces which are adjacent to or contained within construction sites be swept on a daily basis or as needed during the day when sediment and other materials are tracked or discharged on to them. Either sweeping by hand or use of Street Sweepers is acceptable. Street sweepers using water while sweeping is preferred in order to minimize dust. Flushing off paved surfaces with water is prohibited.
 - h. PERIMETER CONTROL: This BMP requires that a construction site install a perimeter control measure along the edge of the construction Site, to prevent, or filter the discharge of surface runoff from the construction site. The type of perimeter control used shall be determined based on-site conditions and location. Maintenance and repair of the control measure shall occur as needed, in a timely manner.
 - i. STOCK PILES: Soils that will be stockpiled for more than thirty (30) days shall be protected from wind and water erosion within fourteen (14) days of stockpile construction. Stabilization of stockpiles located within 100 feet of receiving waters, or with slopes 3 to 1 or greater shall be completed within seven (7) days following stockpile construction. Stabilization and protection of the stockpile may be accomplished by any of the following: Mulching, Temporary/Permanent Revegetation Operations, Chemical Soil Stabilizer Application (requires Denver Public Works approval), or erosion control matting/Geotextiles. If stockpiles are located within 100 feet of receiving waters, a drainageway or the site perimeter, additional sediment controls shall be required.
 - j. SAW CUTTING OPERATIONS: The Contractor shall protect all storm sewer facilities adjacent to any location where pavement cutting operations involving wheel cutting, saw cutting, or abrasive water jet cutting are to take place. The Contractor shall remove and properly dispose of all waste products generated by said cutting operations on a daily basis or as needed throughout the work day. The discharge of any water contaminated by waste products from cutting operations to the storm sewer system is prohibited. (Sec.56-102a, c; Revised Municipal Code, City and County of Denver)
 - k. STRUCTURAL CONTROLS: Development sites that are required to provide detention and water quality enhancement facilities for storm runoff need to install the detention facilities early in the construction build-out of the site. Projects that are using underground detention are required to install a pretreatment structure(s) or sedimentation basin(s) as a means of treating potentially polluted storm water prior to entering the detention structure. Use of these structures is required for entrapping sediment and construction debris during the active construction phase of the project. A narrative section of a Management Plan should address operation and maintenance of the structural controls being used as an active construction BMP.
6. Erosion and sediment control 'Best Management Practices' shall be maintained and kept in effective operating condition for the duration of this Project. All necessary maintenance and repair shall be completed immediately upon discovery of any deficiency or defect.