

**APPENDIX A -WORK WITHIN THE PUBLIC RIGHT-OF-WAY**

## **Appendix A -Work Within the Public Right-of-Way**

- a) All work within the public right-of-way requires a permit to be approved by the Public Works Director or his/her designee.
- b) A preconstruction meeting may be required prior to the commencement of construction activities. Any approval is contingent on conditions set forth by the City of Fairfield to the contractor during said preconstruction meeting.
- c) The applicant of a right of way permit from the City of Fairfield expressly agrees to do all work subject to approval of the City Engineer/Public Works Department, in accordance with City Standards and in accordance with conditions and regulations herein. Applicant is required to comply with all maintenance of traffic requirements outlined in the Ohio Manual of Uniform Traffic Control Devices as well as any applicable Ohio Department of Transportation standards.
- d) Plans must be filed with the City Engineer showing existing and proposed locations (dimensions) and elevations of ALL drainage structures, pipes, and ditches; utility mains, lines, structures, valves, and appurtenances; pavement and curb and gutter in the vicinity of and affecting issuance of this permit. Applicant shall strictly adhere to plans as submitted; any unapproved deviation from the approved drawings or standards will be sufficient cause to have work stopped or reconstructed at the expense of the permit applicant.
- e) An inspection of any water, sewer, roadway pavement, driveway apron, or sidewalk work is required. The applicant is to call the Public Works Department at (513) 867-4200, 24 hours (not including weekends or holidays) in advance to schedule required inspection(s).
- f) A copy of the permit is required on the job site at all times.
- g) All excavations remaining open after sundown must be plated and/or appropriately barricaded for the safety of the public. All extra or surplus material and earth must be removed from the right of way within 24 hours after completion of work.
- h) Traffic must be maintained at all times and under all conditions set forth by the Public Works Department unless otherwise approved by the City Engineer. Any pavement removed will be temporarily restored immediately, in accordance with City standards for paving repair, and permanently repaved within 10 days by the person, or persons making the opening. All repairs are subject to approval of the City Engineer.
- i) In case of emergency where a previously unapproved road opening must be made, due discretion must be exercised. Application for an open road cut permit must be obtained at the earliest possible time after such opening is made.
- j) Upon completion of work, As-built drawings must be filed with the City Engineer showing whatever changes were made from original plan.

- k) The applicant shall be responsible for any failure(s) of workmanship and/or materials for a period of 1 year from the date of completion of all work performed under this permit. Any violation of any of these prescribed conditions will be deemed sufficient cause to refuse further permits to the applicant, and all necessary repairs resulting from said violation(s) will be made by the City. The costs of the repairs will be charged to the permit applicant, and all further applications for permits will be refused until payment of these charges is received.

## **Horizontal Directional Drilling (HDD) Information:**

The following regulations were designed to provide safeguards and standard practices to be utilized when performing horizontal directional drilling work within the City of Fairfield. These regulations are minimum requirements and are intended to supplement other local, state, or federal laws. These regulations shall also be applied to other methods of underground construction including boring, jacking, pushing, and tunneling.

### **1. PREPLANNING**

- a) Development of Drill Plan

The applicant/contractor shall develop a drill plan in sufficient detail (50 scale minimum) to identify the limits of work, roadways, topography, all existing underground utilities, and entry and exit points in plan and profile. Field investigation, including survey work and records research shall be performed, by the plan preparer, during plan preparation.

- b) Investigation of Existing Utilities

As-built plans of existing utilities shall be reviewed for potential conflict. All underground utilities within the limits of the drill path shall be included on the drill plan and profile in sufficient detail to determine the drill depth and bend radii needed to avoid damage by the drilling operations. The applicant/contractor shall expose existing utilities, as necessary, to confirm conflict avoidance.

- c) Permit Approval

- 1) The applicant/contractor shall not proceed with drilling operations in any portion of work until they have a City approved right-of-way permit (and, if applicable, an approved road cut permit). Where a combination of traditional trenching work and boring work is proposed, the applicant shall clearly delineate on the plans the construction method proposed for each portion of the work. The applicant/contractor shall submit drilling procedures to the City Engineer with each permit application, outlining the processes necessary to identify and mitigate potential problems. These problems include, but are not limited to:

- i. Directional boring into another utility
- ii. Directional boring that strays off line or off grade
- iii. Heaved pavement caused by the directional boring operation

## **2. PRECONSTRUCTION**

### a) Notification of Ohio Utilities Protection Service

The applicant/contractor shall contact the Ohio Utilities Protection Service in accordance with State Law for a location-marking request. Where extensive utility marking is requested, the applicant/contractor shall submit a copy of the proposed plans with the marking request. An on-site meeting with the applicant/contractor and the O.U.P.S. Utility Coordinator may be scheduled to expedite the process. The applicant/contractor shall not request locates for more of the project than can be constructed in a 48-hour period.

### b) Marking of Proposed Drill Path

- 1) Regardless of the extent of the directional boring, the applicant/contractor shall mark with white paint, flags, stakes or a combination of these to indicate the intended drill path prior to the utility locator's arrival to the site.
- 2) After the intended drill path has been marked and prior to the arrival of the utility locator, the applicant/contractor shall confirm that the intended drill path is the same as that represented in the approved plan. Any changes to the proposed drill path from that shown on the approved plan will require an amended permit. Approval is required from the City prior to implementing any alignment or grade change.

### c) Locate Verification

If there are known facilities in the proposed drill path, the applicant/contractor shall conduct a pre-construction meeting with the utility owner(s), at the site, prior to commencement of work. The applicant/contractor shall check for visible signs of utilities that may have been missed by the locators. If any obvious utilities are not located, or if there are problems with OUPS markings, the applicant/contractor shall contact the responsible agency prior to start of work.

## **3. DURING CONSTRUCTION**

### a) Site Walkover and Calibration of Equipment

- 1) Prior to construction, the applicant/contractor shall walk the limits of the proposed

work with the City Engineer or designee – if required by the City – to evaluate potential construction conflicts. Conflicts identified during the walkover shall be resolved to the satisfaction of the City.

- 2) The applicant/contractor shall calibrate the transmitter and receiver of the bore head according to manufacturer's instructions prior to, and during, construction.

b) Expose Existing Utilities

- 1) Identify all utility lines in the area where the directional drilling will occur. When the drill path crosses an existing utility the applicant/contractor shall expose the utility by vacuum excavation or hand digging to verify the location and depth of the facility. Where applicable, the applicant/contractor shall leave open a window to the exposed facility so the bore head and back-reamer can be visually monitored.
  - i. Applicant/contractor is to be aware that the City **does not locate** any private water and sanitary sewer mains that are located on private property outside of the right of way.
  - ii. Applicant/contractor is to be aware that the City **does not locate** any sanitary sewer laterals in the right of way.
  - iii. Applicant/contractor is to be aware that the other jurisdictions besides Fairfield have buried public utilities within the City of Fairfield corporation limits, both within and outside of the right of way.

c) Minimum Clearances

- 1) When clearance from a utility is required to be maintained, the required clearance shall include both horizontal and vertical clearances from the nearest edge of the existing facility to the closest edge of the largest diameter back reamer to be used along the drill path.
  - i. Sewers, Waterlines, etc. – 5 feet Horizontally and 18 Inches Vertically
  - ii. Traffic Facilities and Electric/Gas Facilities, etc. – 5 Feet Horizontally and 18 Inches Vertically
  - iii. Additional Horizontal and Vertical clearances may be required for conduit sizes greater than 6 inches
- 2) When the drill path is parallel to and within 5 feet of an existing sewer, waterline, or electric duct bank, special approval from the City's Public Works Director or Public Utilities Director will be required. If this type of parallel installation is approved, the applicant/contractor shall expose by vacuum excavation or hand digging at reasonable intervals to confirm clearance to the adjacent utility, but not less than every 200 feet.

d) Monitor Drilling Operations

The applicant/contractor shall monitor, at 10-foot intervals, the horizontal and vertical location of the drill head and back-reamer to confirm its conformance with the approved drill plan. The applicant/contractor shall not deviate from the approved drill plan. If the bore cannot be completed as per the approved drill plan the applicant/contractor shall stop operations until such time that the City can approve the new alignment.

e) Protection of Locate Markings

The applicant/contractor shall maintain, and protect the locate marks until they are no longer required for proper and safe execution of the drill plan.

f) Drilling Fluid Control

The applicant/contractor shall control the use of drilling fluids to prevent damage to adjacent utilities and pavement in accordance with the Horizontal Directional Drilling Good Practices Guidelines published by the HDD Consortium, current edition.

g) Emergency Contacts

The applicant/contractor shall provide an emergency contact list to the City prior to construction for all known utilities anticipated to be crossed during the drilling operations.

h) Damage to Underground Facilities

- 1) If an underground object is struck, the applicant/contractor shall stop the drilling process, pothole or otherwise expose to ascertain the situation before pulling back the bore head. In the event the drilling damages an existing facility the applicant/contractor shall immediately notify the City at (513) 867-4200. The applicant/contractor shall complete and submit to the City a written report explaining the events that led to the damaged facility within 24 hours of the damage. Repairs to the damaged City or other existing facility will be in accordance with Ohio Utilities Protection law and standard construction practices. Repair work shall be proposed to and approved by the City prior to performing repair work.
- 2) If the applicant/contractor is unable or unwilling to repair the damaged utility to the satisfaction of the owner, he/she shall be held liable for the damages caused to the City's infrastructure and the existing facilities of other utility companies.

#### **4. POST-CONSTRUCTION**

The applicant/contractor shall be responsible for televising sewer lines for a damage analysis if so requested by the City. This may include both public sewer main inspection and private sewer lateral inspections.

## **Insurance Requirements for Work Within the Public Right-of-Way**

Whenever work is performed in the right-of-way or on City-owned property, the contractor shall have insurance that conforms to the following:

- a) *Insurance, Worker's Compensation* - The Contractor shall take out and maintain during the life of the contract, Worker's Compensation Insurance, as required by statute, for all of his employees employed at the site of the project, and in case any work is sublet, for all the subcontractor's employees not otherwise insured. In case any class of an employee, who is engaged in hazardous work at the site of the project, is not protected under the Worker's Compensation Statute, the Contractor shall provide adequate coverage for the protection of the employees not otherwise protected.
- b) *Insurance, Public Liability* - The Contractor shall take out and maintain during the life of the contract, such Public Liability (Bodily Injury and Property Damage) Insurance as shall protect him and any subcontractor performing work at the site from claims for damages because of bodily injury, including accidental death and from claims for property damages which may arise from operations under the contract, whether such operations be by him or by any subcontractor, or by anyone directly or indirectly employed by either of them. Liability coverage is to be written on a comprehensive general liability policy and must include: premises-operations, manufacturers and contractors, owners, landlords and tenants; contractors protective; products-completed operations; contractual liability. General liability shall also include underground property damage by mechanical equipment. When blasting is done, coverage must be provided for the explosion hazard.
- c) *Railroad Insurance* - Where work on railroad right-of way is involved, the Contractor shall also be covered by Railroad Property Liability Insurance with limits of liability as required by the railroad company on whose property the work is being performed. All comprehensive-automobile-general liability insurance policies shall include, as named insured, the Contractor, the Owner/Developer, and the City of Lebanon, Ohio.
- d) *Minimum Insurance Limits* - The minimum amounts of insurance to be furnished by and for the general contractor and the subcontractors under this contract are:
  - 1) Worker's Compensation, OH Statutes Employers Liability: \$100,000 limit of liability
  - 2) Comprehensive General Liability:
    - i. Contracts less than \$1,000,000.00: \$2,000,000.00 minimum coverage
    - ii. Contracts in excess of \$1,000,000.00: \$5,000,000.00 minimum coverage
  - 3) Comprehensive Automobile Liability: \$1,000,000.00 combined single limit per occurrence

- e) *Railroad Protection Insurance* - (where work is to be executed within the railroad right-of-way) Loss of Life or Injury to Person - As required by Railroad Property Damage - As required by Railroad



## **APPENDIX B - TRAFFIC IMPACT STUDIES**

## **Appendix B - Traffic Impact Studies**

Traffic studies for new development and redevelopment within the City shall follow the procedures outlined by this document and must be approved by the City Engineer or his/her designee. Traffic access and impact studies are intended to determine the need for any improvements to the adjacent and nearby roadway system to maintain a satisfactory level of service and the appropriate access provisions for a proposed development.

The primary objectives of a traffic study are as follows:

- Provide a basis for assessing the transportation impacts of a new development or expansion of an existing development; identify the need for any improvements to the supporting roadway system to provide satisfactory levels of service; and, to address safety issues.
- Address relevant transportation issues associated with development proposals that may be of concern to neighboring residents, businesses, and property owners.
- Determine the appropriate location, spacing, and design of the access system for the proposed development in compliance with City standards.
- Evaluate the internal circulation and connectivity systems of the proposed development to provide safe and efficient internal traffic flow and access to/from the adjacent and nearby roadway system.
- Allow compliance with the most current edition of the City's Thoroughfare Plan (or other applicable thoroughfare plans).
- Provide a basis for improvement and funding discussions in conjunction with zoning, special permit, and subdivision plat approvals.

### **1. TRAFFIC STUDY GUIDELINES**

The need for either a detailed traffic impact study or a limited traffic operations analysis will be identified when rezoning, variance, or plan approval petitions are filed (or discussed with public officials). The City Engineer may also identify the need for a traffic impact study or operations analysis in response to an access permit application.

#### **a) Study Warrants for a Traffic Impact Study**

A complete traffic impact study (TIS) will be required for any proposed development or redevelopment that meets one or more of the following criteria:

- 1) *Significantly-sized project.* A development meets this criterion if it generates more than 100 trip ends (i.e., two-way vehicle-trips) during any one hour of an average

weekday. These trip ends shall be calculated using the latest edition of Trip Generation as published by the Institute of Transportation Engineers (or upon special studies of unique land-uses as approved by the reviewers).

- 2) *Modifications to roadways.* This criterion is met when the proposed development is expected by the reviewers to significantly impact a roadway segment, or roadway segments, identified in thoroughfare plans and/or improvement programs of the City, County, State, or other jurisdictions. This criterion is also met when access for the proposed development occurs on a public road that may be widened or improved in accordance with adopted thoroughfare plans.
- 3) *Nearby congestion.* A development meets this criterion if the proposed development is expected, in the opinion of City staff, to significantly impact surrounding roadways, intersections, or sets of intersections which are already operating at level of service "D" or worse during any hour (on a design day, or days, selected for analysis purposes). The level of service will be determined by an analysis prescribed in the current edition of the Highway Capacity Manual (Transportation Research Board) using data that reflects the current traffic conditions.
- 4) *High traffic impact area.* This criterion is met when, in the opinion of City staff, the proposed development is located in a high traffic impact area. Such reflects special sensitivity to traffic condition changes due to existing congestion, problematic circulation patterns, burgeoning traffic operations problems, or other traffic conditions of special concern. A traffic impact study will be requested for any proposed new development or modifications to existing development within a high traffic impact area.

#### **b) Study Warrants for a Traffic Operations Analysis**

A traffic operations analysis may be requested for petitions which do not meet the warrants for a detailed traffic impact study. A traffic operations analysis will be requested for any one of the following conditions:

- 1) Requests for a driveway (or driveway modification) on any public road.
- 2) Existing sight distance limitations or high accident experience adjacent to the subject site.
- 3) Modifications to a site plan for an existing development where the parking layout and/or internal circulation system could affect traffic operations on the external roadway system.
- 4) Requests or probable need for a new traffic signal to control driveways serving a proposed or existing development.

Examples of traffic operations analyses include studies of proposed driveway locations, resulting

sight distances, driveway and intersection geometry and control, turn lane needs and design, accommodation of projected queuing conditions, accident experience and safety, and traffic signal warrant and progression analysis.

## **2. PRE-MEETING AND MEMORANDUM OF UNDERSTANDING**

Prior to commencing the preparation of a traffic impact study, the preparer shall schedule a meeting with appropriate City staff. Other participants in this pre-meeting shall be representatives of other jurisdictions and agencies as deemed appropriate by City personnel. The participants at the meeting shall identify and agree upon the following issues and needs prior to the preparation of the TIS:

- a) Study area
- b) Study years
- c) Development phasing, if applicable
- d) Field data collection requirements
- e) Acceptable data associated with traffic volumes, accident history, and signal operations
- f) Peak traffic hours (analysis hours)
- g) Trip generation, trip distribution, and assignment methods
- h) Applicable planning documents (including the City's Thoroughfare Plan and Access Management Plan)
- i) Other traffic impact studies prepared for developments in the study area
- j) Utilization of travel demand models
- k) Background traffic and growth factors
- l) Acceptable levels of service (LOS)
- m) Analyses methodology and software (capacity, signal warrants, etc.)
- n) Cycle lengths at signalized intersections
- o) Safety issues (sight distances, accident data, etc.)
- p) Committed and planned roadway improvements and schedule
- q) TIS submittal date

The preparer shall submit a Memorandum of Understanding (MOU) which details the assumptions and methodologies agreed upon regarding the items above – and the preparer shall request City staff concurrence with the contents of the MOU. The MOU shall be submitted to the City within one week subsequent to the pre-meeting. The MOU will be approved by City staff within one week of receipt – assuming that all items are properly addressed.

If not addressed in the MOU, the preparer shall make a separate submission regarding traffic growth rates, vehicle-trip generation rates, and directional distributions of site generated traffic to the City for concurrence and City staff will respond to the preparer on these items within one week of receipt.

### **3. PREPARER QUALIFICATIONS**

Traffic Impact Studies shall be prepared by professionals with training and experience in traffic engineering/transportation planning and under the supervision of a registered professional engineer in Ohio with training and experience in traffic engineering (operations and safety analysis experience). The preparer shall not be a member of the TIS review team; neither shall the preparer be related to a review team member nor hold a financial interest in the project under study. The final document shall be signed and stamped by a Professional Engineer registered in the State of Ohio.

### **4. STUDY GUIDELINES**

#### **a) Study Areas**

Any complete transportation study analyzing off-site access needs and impacts will include at least all site access points and major intersections (signalized and unsignalized) adjacent to the site. Beyond this area, the review team will determine any additional area to be included based on local or site-specific deficiencies, development size, traffic conditions, or local policy potentially affected by the proposed development. The study area will also encompass vacant parcels of land believed to impact the intersections being analyzed so as to analyze the proposed project in the context of other previously approved or anticipated developments in the surrounding area. Generally, the study area must be large enough to encompass the critical intersections to be analyzed. In high traffic impact areas, the study area may include the entire zone in order to capture the cumulative impact of future development within the area.

The following shall be included in the study area conditions section of the report:

- 1) Study area boundaries
- 2) Study area land-uses (existing and anticipated future development)
- 3) Site accessibility (existing and future roadway system; document basic features to include jurisdiction, functional classification, pavement widths, lane usages, traffic control devices, speed limits, etc.)
- 4) TIS intersections (defined in the Memorandum of Understanding):
  - i. Lane usages and traffic control devices
  - ii. Sight distances (compare existing distances with established criteria)
  - iii. Accident experience (if requested)

## **b) Study Years**

Beyond the assessment of current conditions, traffic impact studies are to address conditions in the anticipated build-out year of the proposed development and the design year – which is 20 years beyond the anticipated build-out year. Alternate time frames for smaller developments may be considered on a case by case basis. Some general guidelines are as follows:

- 1) All the study intersections shall be analyzed with respect to existing conditions.
- 2) For site access points (and immediately adjacent intersections as appropriate), analyses shall be performed for both build-out and design year conditions. Such driveways and intersections shall be configured to meet design year requirements. Analyses of build-out conditions shall define what elements of the long-term configuration need to be made to yield acceptable conditions in the build-out year.
- 3) For all other study intersections, analyses shall be performed (with and without the proposed development) for the build-out year. The impacts associated with site generated traffic must be appropriately mitigated at these intersections.
- 4) If the proposed development is to be implemented in phases, it may be appropriate to analyze each major phase (e.g., initial phase, an intermediate phase, and full project build-out) in order to define the potential for staging defined roadway improvements/modifications.

## **c) Study Days and Hours**

- 1) For each defined horizon year, specific time periods are to be analyzed. In most cases, only analyses of weekday street peak hours will be required. However, land-use classifications which experience their highest trip generation levels during periods other than street peak hours may require analyses for such periods to determine proper site access and turn lane storage requirements. Examples of land-use classifications which typically have substantially higher site trip generation peaks at times other than weekday street peak hours are: shopping centers, discount stores, recreational uses (e.g., theaters, stadiums, and arenas), restaurants, schools, churches, and garden centers.
- 2) The analysis time period (and condition) shall be discussed and designated by the reviewers at the initial meeting. The objective is to designate the design day(s) and time period(s) so as to cause evaluation of conditions during the design hour or design hours. The selection of the proper design day and hour is particularly important for a development which exhibits significant seasonal variations in trip generation (such as shopping centers). Special consideration must also be given to a development located in a zone that experiences (or will experience) significant seasonal variations in traffic volumes due to unique land-uses.

- 3) The design hour(s) to be used in a TIS will be discussed and designated by the reviewers at the initial meeting. At a minimum, all studies must include assessments of conditions during both the AM and PM peak hours (unless otherwise directed by City staff).

**d) Traffic Counts**

- 1) In areas without current traffic counts, unless otherwise approved, traffic counts shall be conducted for a minimum of 3 days.
- 2) For areas with current traffic counts, counts may be taken for a minimum of 1 day. These counts will be compared with traffic counts on file. If the counts are comparable, the newly collected counts will be considered adequate for the study. If the counts are not comparable, the developer and the City shall hold discussions to determine the source of the difference and whether new counts should be considered, or what existing counts should be used for the study.
- 3) The City may require longer traffic count timeframes to account for unique circumstances. This will be determined on a case by case basis.

**e) Traffic Volume Projections**

The total anticipated transportation infrastructure requirements in the study horizon year(s) depend on traffic projections and are needed so that the City can accurately evaluate implications associated with the applicant's request for development approval. However, the impacts and infrastructure needs will be assessed separately for the baseline condition (horizon year development excluding site) and total development (horizon year development including site).

**1) Non-Site Traffic**

- i. Non-Site (background) traffic volumes are composed of existing volumes, accepted general growth of traffic, and traffic generated by previously approved new developments in the study area.
- ii. *Non-Site Development within Study Area.* The impacts of the anticipated non-site development shall be assessed to aid both the City and the applicant in the determination of sources of transportation infrastructure needs. All significant developments within the study area that have been approved or are likely to occur by the specific horizon years shall be identified and incorporated into the study. The land-use type and magnitude of the probable future developments in the horizon years shall be identified in conversations with staff of the City and other relevant public agencies.
- iii. *Non-Site Development Outside Study Area.* In some cases, the City may request the applicant to specifically consider and include traffic generated by large developments located outside the defined study area. In such cases, a

TIS prepared for the identified development will be provided to the applicant by the City to permit the inclusion of relevant traffic volumes within the subject TIS. The applicant will not be required to undertake vehicle-trip generation and trip distribution for developments outside the study area.

## **2) Site Traffic**

- i. *Site Development.* Development proposed to be located on the site under study shall be categorized by specific land-use type consistent with classifications contained in the latest edition of Trip Generation (Institute of Transportation Engineers). The proposed number of development (building) units (e.g., gross square feet of building area, dwelling units, hotel rooms, etc.) shall be provided. Land area is insufficient to provide a basis for analysis.
- ii. If the proposed land-use or density is inconsistent with the current land-use plan, comparison of the proposed land-use and the land-use plan recommendation shall be made using classifications contained in the Trip Generation report.
- iii. Trips generated by the proposed development shall be calculated using the most current edition of the Institute of Transportation Engineers (ITE) Trip Generation Manual. Methodologies contained in the ITE Trip Generation Handbook shall be used for internal trips and pass-by trips calculations.
- iv. Distribution and assignment of site traffic shall be based on engineering judgment and the method shall be pre-approved by the City. The directions from which traffic will access the site will depend on various factors, including:
  - Type of proposed development and the area from which it will attract traffic,
  - Size of proposed development,
  - Competing developments (if applicable),
  - Surrounding land uses and population, and
  - Conditions on surrounding roadway system.

## **3) Pass-By Trips**

- i. Pass-by trips will be permitted for retail/commercial developments.
- ii. Pass-by trips shall be in accordance with ITE Trip Generation guidelines.

## **f) Capacity Analysis**

The standard criterion used to define quality of traffic flow is "level of service" (LOS). This is a qualitative assessment of factors such as speed, volume, geometry, delays, and ease of



maneuvering. All analysis techniques specify the quality of operations as a letter - with 'A' representing the best operating condition and 'F' representing the worst. Refer to the Highway Capacity Manual for LOS criteria.

The minimum acceptable design level of service (LOS) in the City is 'C'. At intersections, analyses should show an overall LOS of 'C' with no individual movement operating at less than 'D' to be acceptable. Where unacceptable levels of service are calculated for background or "no-build" conditions, the applicant is responsible for only maintaining the same level of service when site traffic is added to the roadway element.

## 1) Methodology

- i. The use of HCS software is acceptable for capacity analyses.
- ii. In general, a Peak Hour Factor (PHF) of 0.90 shall be used for horizon year analyses. (A different PHF may be more appropriate for certain land uses (e.g., a school); such conditions will be discussed at the initial meeting.)
- iii. Capacity and level of service calculations shall be performed for each site drive intersection for build-out year and design year conditions. Site driveway intersections shall be configured for design year conditions.
- iv. Capacity and level of service calculations shall be performed for all other study intersections for:
  - A. Existing conditions (i.e., current volumes on existing roadway system).
  - B. Build-out year 'No-build' (non-site) traffic volumes on existing (or planned and programmed) roadway system.
    - If improvements/modifications to the existing roadway system are planned and programmed, City staff will provide this information to the applicant and the improved roadway system will be used as a base for testing horizon year traffic conditions – as appropriate.
    - If roadway improvements or modifications beyond those formally planned or programmed are assumed in the 'no-build' analysis, then these improvements or modifications will be considered to be the responsibility of the applicant. If this is not the case, then the rationale for considering such improvements must be clearly described.
  - C. Build-out year 'Build' (i.e., non-site plus site) traffic volumes on existing (or planned and programmed) roadway system.
  - D. Build-out year 'Build' traffic volumes on improved/modified roadway

system that mitigates the traffic impacts of the proposed development.

- Produce a table for each intersection, study period, and study horizon year listing the level of service and delay (or v/c ratio) by (1) individual movement, and (2) overall intersection for: Existing conditions, No-Build conditions, Build conditions on existing roadway system, and Build conditions on proposed roadway system.

## **2) Mitigation**

Recommendations shall be made in the TIS for the site access points and external roadway improvements (such as additional through lanes, turn lanes, and traffic control devices) necessitated as a result of the proposed development. The traffic impacts of the proposed/planned development must be properly mitigated. Suggested improvements/modifications must be practical and acceptable to the appropriate agency/jurisdiction. A scaled concept sketch or (at least a schematic figure) shall be provided illustrating the improvements/modifications that properly mitigate the traffic impacts of the proposed development.

### **g) Turn Lane Criteria**

- 1) Turn lanes at signalized intersections (existing or warranted upon on build-out day) and at off-site unsignalized intersections shall be provided based on capacity analyses (as part of mitigation).
- 2) Left turn lanes shall be provided at site access points under the following conditions:
  - i. On major and minor arterial roadways with speed limits greater than 40 mph, or
  - ii. On major and minor collector roadways with speed limits greater than 40 mph and more than 10 left turning vehicles during the peak hour of the development, or
  - iii. Per graphs 401-5aE, 401-5bE and 401-5cE, which are the left turn lane warrants contained in the ODOT Location and Design Manual Volume I. (These are Graphs 1, 2, and 3 in the ODOT State Highway Access Management Manual.) Note that the warrants apply only to the free flow approach of the unsignalized intersection. Turn lanes on the minor approach (under stop-sign control) shall be provided based on capacity analyses.
- 3) Right turn lanes shall be provided at site access points per graphs 401-6aE, 401-6bE, 401-6cE and 401-6dE, which are the right turn lane warrants contained in ODOT Location and Design Manual Volume I. (These are Graphs 4, 5, 6 and 7 in the ODOT State Highway Access Management Manual.)
- 4) Left or right turn lanes may also be required when deemed necessary for safety

purposes by the City Engineer. The length of left and right turn lanes shall be based on the criteria contained in the ODOT Location and Design Manual Volume I Section 401-9E and 401-10E or, where appropriate, on the results of queuing analyses associated with the capacity calculations. The length of turn lanes shall be based on a design speed five miles per hour above the posted speed limit. For roadways with an unposted speed limit, a design speed of 55 MPH shall be used.

**h) Traffic Signal Warrant Criteria**

Warrant analyses for the installation of a traffic signal shall be required if a signal is recommended as a mitigating measure. Signal warrants, as contained in the latest edition of the Ohio Manual of Uniform Traffic Control Devices (OMUTCD), shall be used for any formal request associated with the installation of a traffic signal. In general, if any one or more of the eight warrants as found in the OMUTCD is met, a traffic signal may be considered. Signal warrant analyses may be conducted using projected traffic volumes to identify the potential need for the installation of traffic signals. However, traffic signals will not be installed unless: (1) the subject intersection is unquestionably projected to meet warrants on build-out day of the development, or (2) actual counts at the intersection meet warrant thresholds

Any intersection that meets signal warrant thresholds must also be evaluated in terms of location and spacing based on the standards noted in the City's Access Management Regulations or in the ODOT State Access Management Manual (if applicable) for the access category assigned by the City's Thoroughfare Plan.

**i) Site Access, Circulation, Parking and Roadway Plans**

The following shall also be addressed in the TIS:

- 1) On-site parking needs.
- 2) Ease of internal circulation.
- 3) On-site queuing provisions.
- 4) On-site traffic operations and control (as they may affect traffic operations on the external roadway system).
- 5) Design of site driveways to include pavement widths, lane usages, proposed median widths, traffic control devices, etc.

Plans showing site access and any roadway improvements/modifications shall be submitted with all requested traffic impact studies and/or traffic operations analyses. These plans shall be to a practical scale.

The site access and roadway plan(s) shall be of sufficient detail to show:

- 1) Location and spacing of all site access points and driveways (including relationships to other nearby roadways, intersections, and driveways),
- 2) External roadway improvements/modifications,
- 3) Lane configurations and control,
- 4) Queuing and vehicle storage distances,
- 5) Spacing of traffic signals to permit proper traffic progression on the adjacent roadway system,
- 6) Sight distances,
- 7) Adequate pedestrian, bicycle, and public transit provisions (if applicable),
- 8) Sufficient emergency and service/delivery access, and
- 9) Proper on-site circulation and parking layout so as not to affect traffic flow and operations on the external street system.

## **5. SUBMITTAL REQUIREMENTS**

All traffic impact studies and traffic operations analyses must be documented in a report. The results of traffic operations analyses can be summarized in a memorandum type report – while the results of traffic impact studies must be submitted in standard report formats. Such traffic impact reports shall be complete and concise. Two copies of the report shall be submitted to the City for review.

## **6. PUBLIC RECORD**

All submitted documents, including both reports and data, become public record upon submittal. Information contained in these submittals may be used by agency staff or other study preparers in subsequent studies. The original sources of data and information shall be cited when taken from prior submittals.

**APPENDIX C - SMALL CELL**  
**INFRASTRUCTURE WITHIN THE RIGHT-OF-WAY**

## **Appendix C - Small Cell Infrastructure within the Right-of-Way**

Small cell infrastructure within the public right-of-way requires a permit to be approved by the Public Works Director or his/her designee.

### **1. PURPOSE**

The purpose of these guidelines is to establish general procedures and standards, consistent with all applicable federal and state laws, for the siting, construction, installation, collocation, modification, relocation, operation, and removal of Small Cell Facilities and Wireless Support Structures within the City's right-of-way. The goals of these guidelines are to:

- a) Provide standards, technical criteria, and details for Small Cell Facilities and Wireless Support Structures in the City's right-of-way to be uniformly applied to all applicants and owners of Small Cell Facilities or support structures for such facilities.
- b) Enhance the ability of wireless communications carriers to deploy small cell wireless technology in the City quickly, effectively, and efficiently so that residents, businesses, and visitors benefit from ubiquitous and robust wireless service availability.
- c) Preserve the character of the City's neighborhoods and corridors.
- d) Ensure that Small Cell Facilities and Wireless Support Structures conform with all applicable health and safety regulations and will blend into their environment to the greatest extent possible.
- e) Comply with, and not conflict with or preempt, all applicable state and federal laws.

### **2. DEFINITIONS**

- a) *Abandoned* means Small Cell Facilities or Wireless Support Structures that are unused for a period of three hundred sixty-five days without the Operator otherwise notifying the City and receiving the City's approval.
- b) *Antenna* means communications equipment that transmits or receives radio frequency signals in the provision of wireless service.
- c) *Collocation or Collocate* means to install, mount, maintain, modify, operate, or replace wireless facilities on a Wireless Support Structure.

- d) *Decorative Pole* means a pole, arch, or structure other than a street light pole placed in the right-of-way specifically designed and placed for aesthetic purposes and on which no appurtenances or attachments have been placed except for any of the following: (a) electric lighting; (b) specially designed informational or directional signage; (c) temporary holiday or special event attachments.
- e) *Operator* means a wireless service provider, cable operator, or a video service provider that operates a Small Cell Facility and provides wireless service. *Operator* includes a wireless service provider, cable operator, or a video service provider that provides information services as defined in the “Telecommunications Act of 1996,” 110 Stat. 59, 47 U.S.C. 153(2), and services that are fixed in nature or use unlicensed spectrum.
- f) *Permittee* means the owner and/or operator issued a permit pursuant to these guidelines.
- g) *Right-of-Way* means the surface of, and the space within, through, on, across, above, or below, any public street, public road, public highway, public lane, public path, public alley, public sidewalk, public drive, public easement, and any other land dedicated or otherwise designated for a compatible public use, which is owned or controlled by the City of Fairfield.
- h) *Right of Way Permit (“Permit”)* means the non-exclusive grant of authority issued by the City of Fairfield to install a Small Cell Facility and/or a Wireless Support Structure in a portion of the right-of-way in accordance with these guidelines.
- i) *Small Cell Facility* means a wireless facility that meets both of the following requirements:
  - 1) Each antenna is located inside an enclosure of not more than six cubic feet in volume or, in the case of an antenna that has exposed elements, the antenna and all of its exposed elements could fit within an enclosure of not more than six cubic feet in volume.
  - 2) All other wireless equipment associated with the facility is cumulatively not more than 28 cubic feet in volume. The calculation of equipment volume shall not include electric meters, concealment elements, telecommunications demarcation boxes, grounding equipment, power transfer switches, cut-off switches, and vertical cable runs for the connection of power and other services.
- j) *Utility Pole* means a structure that is designed for, or used for the purpose of, carrying lines, cables, or wires for electric or telecommunications service. “Utility Pole” excludes street signs and decorative poles.
- k) *Wireless Support Structure* means a pole, such as a monopole, either guyed or self-

supporting, street light pole, traffic signal pole, a 15 foot or taller sign pole, or Utility Pole capable of supporting Small Cell Facilities. *Wireless Support Structure* excludes a utility pole or other facility owned or operated by an electric utility.

### **3. REQUIREMENT TO COMPLY**

Placement, modification, operation, relocation, and removal of a Small Cell Facility and/or Wireless Support Structure shall comply with these design guidelines of the City of Fairfield's Codified Ordinances at the time the permit for installation, modification, relocation, or removal is approved and as amended from time to time.

### **4. APPLICATION**

#### **Materials**

Prior to installation, modification, relocation, or removal of a Small Cell Facility, relocation or removal of an existing Wireless Support Structure, installation of a new Wireless Support Structure, or collocation on an existing Wireless Support Structure in the right-of-way, the operator shall apply to the City and receive a Right-of-Way Permit for Micro Wireless from the City.

The following items must be included in order for the application to be considered complete:

- a) General Requirements for Right-of-Way Permit Applications for a Small Cell Facility and/or Wireless Support Structure in the Right-of-Way, excluding applications for removal:

*Contact Information:* Applicant must provide contact information, including the name of the company seeking the permit and the name of a designated point of contact along with his/her mailing address, email address and phone number. The operator is responsible for providing updated contact information to the City when the contact information changes from that which was included in the application. For the purposes of submitting an application under this section, "Operator" also includes any person that, at the time of filing the application, provides the City the person's written authorization to perform the specific work for which an application has been submitted on behalf of an operator.

*Consolidated Applications:* An applicant seeking to construct, modify, collocate or replace more than one small cell facility or more than one wireless support structure within the City may file a consolidated application for up to thirty (30) small cell facility requests or up to thirty (30) wireless support structure requests provided the requests grouped on a consolidated application only address substantially the same type of small cell facilities or substantially the same type of



wireless support structures. (Note: The City may treat each request individually during application review and processing when issuing a determination.)

*Aerial Map:* Applicant must include an aerial map showing the location of the proposed or existing support structure to which the Small Cell Facility is proposed to be attached, and a street view image.

*Full Description of Number and Dimensions of Facilities and/or Structures to be Installed:* Applicant must include a full description of the number and dimensions of all Small Cell Facilities proposed to be installed and the Wireless Support Structure, either new or existing, to be utilized for each Small Cell Facility.

*Site and Other Plans and Structural Calculations:* Applicant must include fully dimensioned site plans, elevation drawings and structural calculations prepared, sealed, stamped, and signed by a Professional Engineer licensed and registered by the State of Ohio. Drawings must depict any existing Small Cell Facilities with all existing transmission equipment and other improvements, the proposed facility with all proposed transmission equipment and other improvements and the legal boundaries of the existing right-of-way, and any associated access and utility easements.

Fully dimensioned site plans shall indicate the spacing from existing curb, driveways, sidewalks, light poles, and any other poles or appurtenances. A traffic control plan and/or other plans may also be required based on the proposed scope of work.

*Photo Simulations:* Applicant must include photo simulations from at least two reasonable line-of-site locations in the vicinity of the proposed project site. Photo simulations must be included with the site plans on a separate sheet.

Photo simulations must include cabling/conduit, the RF warning and node ID stickers and equipment offset from the pole. Ensure photo simulations accurately show smaller equipment items such as duplexers, ground buss bars, PCX, or J-Boxes.

Upon request applicant shall provide photographs, if any, of other locations utilizing the same or substantially similar Small Cell Facilities and/or Wireless Support Structures.

*Equipment Specifications:* For all equipment depicted on the plans, the applicant must include (1) the manufacturer's name and model number; (2) physical dimensions, including without limitation, height, width, depth and weight with mounts and other necessary hardware; (3) photographs and/or renderings to scale of all equipment depicted in the plans; and (4) the ambient noise level generated from the equipment, if any.

b) Small Cell Facility Applications

*Size Limits:* Applicant must include scaled, dimensioned drawings or pictures with calculations to show strict conformity to the size limitations for a Small Cell Facility.

*Confirmation of Compliance with State and Federal Environmental Regulations:* Applicant shall certify that the proposed Small Cell Facility and/or new Wireless Support Structure fully comply with all State and federal environmental regulations.

*RF Compliance Audit:* Applicant must submit a sworn affidavit prepared and signed by a licensed RF engineer with knowledge about the proposed project that affirms the proposed project will be compliant with all applicable governmental regulations in connection with human exposure to radiofrequency emissions.

*Electrical Service:* Operator shall be responsible for obtaining any required electrical power service to the Small Cell Facility. Operator's electrical supply shall be separately metered from the City. Applicant must provide sealed engineered drawings for conduit size, circuit size, calculations for amp, distances running, etc. Applicant must obtain the appropriate Permits from the Building Department prior to installation of the Small Cell Facility.

c) Applications for New Wireless Support Structure

*Distance Analysis:* Applicant must provide an analysis showing that the proposed new Wireless Support Structure is spaced at least 250 feet from a pole supporting a Small Cell Facility, unless otherwise approved by the City in writing.

*Size Limits:* Applicant must provide scaled dimensional drawings with calculations to show strict conformity to the size and maximum height limitations as set forth in these guidelines.

d) Applications for Attachment to a Non-City-owned Wireless Support Structure

*Owner's Authorization:* Applicant must submit evidence sufficient to show that either (1) Applicant owns the proposed support structure; or (2) Applicant has obtained the owner's authorization to file the application.

e) Applications for Removal of a Small Cell Facility and/or a Wireless Support Structure

*Contact Information:* Applicant must provide contact information which includes the name of company seeking the Permit and the name of a designated point of contact along with

his/her mailing address, email address and phone number. Operator is responsible for providing updated contact information to the City when the contact information changes from that which was included in the application.

*Proof of Agent Designation (if applicable):* If the Applicant is serving as an agent for an Operator, the Applicant must provide written documentation of the agent designation signed by the Operator.

*Consolidated Applications:* An Applicant seeking to remove more than one Small Cell Facility or more than one Wireless Support Structure within the City may file a consolidated application for up to 5 Small Cell Facility requests or up to 5 Wireless Support Structure requests provided the requests grouped on a consolidated application only address substantially the same type of Small Cell Facilities or substantially the same type of Wireless Support Structures. (Note: The City may treat each request individually during application review and processing and when issuing a determination.)

*Map:* Applicant must include an aerial map showing the location of the proposed removal and a street view image.

*Full Description of Number and Dimensions of Facilities and/or Structures to be Removed:* Applicant must include a full description of the number and dimensions of all Small Cell Facilities and/or the support structure proposed to be removed.

*Full Description of Restoration of the Right of Way:* Applicant must include a full description of the steps to be involved in the removal and the actions that will be taken to restore the Right of Way.

Operator shall repair any damage to the right-of-way, any facilities located within the right-of-way, and/or the property of any third party resulting from operator's installation activities (or any other of operator's activities hereunder) within 10 calendar days following the date of such installation, at operator's sole cost and expense. Restoration of the right-of-way and such property must be to substantially the same, or better, condition as it was immediately before the date operator was granted a permit for the applicable location, or did the work at such location (even if operator did not first obtain a permit). This includes restoration or replacement of any damaged trees, shrubs, or other vegetation. Such repair, restoration, and replacement shall be subject to the sole, reasonable approval of the City.

## **Application Submittal Procedures**

All applications should be submitted to the Department of Public Works with the

application fee and required documents. The Department may establish regular hours in which applications may be submitted, but will generally receive applications Monday through Friday between 8:00 a.m. and 5:00 p.m., excluding holidays and subject to City personnel availability. The City will review all applications for completeness upon receipt. Applications may be rejected as incomplete upon discovery of deficiencies in the application.

### **Application Fee**

The applicant shall submit the application fee of \$250 per small cell facility. For the purposes of fee calculations a single small cell facility can be a single small cell antenna (and appurtenances), a single support structure, or a single support structure installed, modified, relocated or removed in conjunction with an antenna (and appurtenances) attached to the support structure. Fees for consolidated applications apply to each location and are cumulative. Additional building/electric permit fees may be applicable.

### **Timeline for Review**

The City will complete its review of each duly submitted application and provide a determination within 90 days for an application to collocate, replace, or modify a Small Cell Facility or 120 days for an application to construct, modify, or replace a Wireless Support Structure associated with a Small Cell Facility.

### **Incomplete Applications**

If the City determines during review that the application is incomplete, the City will notify the applicant and suspend further review until the missing items are provided. Consistent with state and federal requirements, the City will pause the review timeline for incomplete applications. If the City determines the application is still incomplete after receipt of additional application materials, the City will pause the timeline again until the application is deemed complete.

## **5. LOCATIONS OF SMALL CELL FACILITIES, RELATED GROUND EQUIPMENT, AND WIRELESS SUPPORT STRUCTURES**

### **Most Preferable Locations**

The following are the most preferred areas for new Small Cell Facilities.

- a) *Industrial Areas*, if not adjacent to a municipal park or residential area.
  
- b) *Regional Thoroughfares Rights of Way Areas* if not adjacent to a municipal park or

residential area.

- c) *Retail and Commercial Areas* if not adjacent to a municipal park or residential area.

### **Collocation Preference**

It is the City's strong preference that whenever an applicant proposes to place a new Wireless Support Structure with a Small Cell Facility within 250 feet from an existing Wireless Support Structure the applicant either collocate with the existing facility or demonstrate that a collocation is either not technically feasible or space on the existing facility is not potentially available.

### **Least Preferable Locations**

The following are the least preferred areas for new Small Cell Facilities.

- a) *Residential Areas*
- b) *Parks*
- c) *Design Review Districts*

### **Order of Preference for Wireless Support Structures**

The following list indicates the order of preference for Wireless Support Structures for Small Cell Facilities.

- a) *Existing Utility Poles:* It is the City's preference that Small Cell Facilities be installed on existing Utility Poles (electric or telephone) or lashed onto existing telephone or electrical lines between existing Utility Poles.
- b) *New Poles:* If existing poles have proven to be unavailable, the City prefers the installation of a new pole to serve as a Wireless Support Structure.

## **6. CONSIDERATION OF ALTERNATE LOCATIONS**

The City reserves the right to propose an alternate Wireless Support Structure to the one proposed in the application and/or to propose an alternate location for a new Wireless Support Structure within one hundred feet of the proposed location or within a distance that is equivalent to the width of the right-of-way in or on which the new Wireless Support Structure is proposed, whichever is greater, which the operator shall use if it has the right to use the alternate location on reasonable terms and conditions and the alternate location does not impose technical limits or additional costs.

## 7. GUIDELINES ON PLACEMENT

Generally, an applicant shall construct and maintain Small Cell Facilities and Wireless Support Structures in a manner that does not (1) obstruct, impede, or hinder the usual travel or public safety on a right-of-way; (2) obstruct the legal use of a right-of-way by other utility providers; (3) violate nondiscriminatory applicable codes; (4) violate or conflict with the City's Codified Ordinances or these design guidelines; and (5) violate the federal Americans with Disabilities Act.

The City desires to promote cleanly organized and streamlined facilities using the smallest and least intrusive means available to provide wireless services to the community.

Generally, a Small Cell Facility and/or Wireless Support Structure shall match and be consistent with the materials and finish of the adjacent municipal poles of the surrounding area adjacent to their location. In the absence of adjacent municipal poles, the Wireless Support Structure shall match the materials and finish of the adjacent utility poles.

### **Antennas on Existing or Replaced Utility Poles**

The antenna(s) associated with collocation of a Small Cell Facility on existing or replaced utility poles must have concealed cable connections, antenna mount, and other hardware. The maximum dimensions for antennas shall not be more than 6 cubic feet in volume, including any enclosure for the antenna.

### **Right-of-Way**

Small Cell Facilities and Wireless Support Structures and related equipment shall be placed, as much as possible, in line with other utility features and in a location that minimizes any obstruction, impediment, or hindrance to the usual travel or public safety on a right-of-way.

### **Height above Ground**

- a) *Small Cell Facilities:* Small Cell Facilities shall be installed at least 8 feet above the ground. If a Small Cell Facility attachment is projecting toward the street, for the safety and protection of the public and vehicular traffic, the attachment shall be installed no less than 16 feet above the ground.
- b) *New Wireless Support Structures:* In areas where there are no Wireless Support Structures or utility poles taller than 30 feet in height above ground level and the maximum allowable height for building construction in the underlying zoning district is 35 feet in height above ground level or less, the overall height of a new Wireless Support Structure and any collocated antennas shall not be more than 35

feet in height above ground level. This applies to zoning districts A-1, B-1, C-1, C-4, and R.

In all other areas, the overall height of a new Wireless Support Structure and any collocated antennas shall not be more than 40 feet in height above ground level. This applies to zoning districts C-2, C-3/3A, D-1, M-1, M-2, SE, and ST.

- c) *Existing Wireless Support Structures:* For an existing Wireless Support Structure, the antenna and any associated shroud or concealment material are permitted to be collocated at the top of the existing Wireless Support Structure and shall not increase the height of the existing Wireless Support Structure by more than 5 feet (one-time increase).

### **Protrusion**

No protrusions from the outer circumference of the existing structure or pole shall be more than 1 foot. The pole and all attachments to the pole that are projecting, or any equipment or appurtenance mounted on the ground, shall comply with Americans with Disabilities Act and shall not obstruct an existing or planned sidewalk or walkway.

### **Location of Equipment - General**

Small Cell Facilities and related equipment shall not impede pedestrian or vehicular traffic in the right-of-way. If any Small Cell Facility or Wireless Support Structure is installed in a location that is not in accordance with the plans approved by the Department of Public Works, impedes pedestrian or vehicular traffic and/or or does not comply or otherwise renders the right-of-way non-compliant with applicable laws, including the Americans with Disabilities Act, then the operator shall promptly remove the Small Cell Facilities and/or Wireless Support Structure. If the operator does not complete removal within 30 days of notice, the City will remove it and bill the operator for the actual and direct cost of the removal.

The applicant is required to incorporate ambient noise suppression measures and/or required to place the equipment in locations less likely to impact adjacent residences or businesses to ensure compliance with all applicable noise regulations.

- a) *Utility Lines:* Service lines must be undergrounded whenever feasible to avoid additional overhead lines. For metal poles, undergrounded cables and wires must transition directly into the pole base without any external junction box.
- b) *Spools and Coils:* To reduce clutter and deter vandalism, excess fiber optic or coaxial cables for Small Cell Facilities shall not be spooled, coiled or otherwise

stored on the pole except within the approved enclosure such as a cage or cabinet.

- c) *Above-Ground Conduit:* On wood poles, all above-ground wires, cables and connections shall be encased in the smallest section or smallest diameter PVC channel, conduit, u-guard, or shroud feasible, with a maximum dimension of a 4-inch diameter. Such conduit shall be finished in zinc, aluminum or stainless steel, or colored to match those metal finishes.

### **Location of Ground Mounted Equipment**

Ground equipment should be minimal and as unobtrusive as possible. It should be placed to minimize any obstruction, impediment, or hindrance to the usual travel or public safety on a right-of-way, maximize the line of sight required to add to safe travel of vehicular and pedestrian traffic, maximize that line of sight at street corners and intersections, and minimize hazards at those locations. The City may deny a request that negatively impacts vehicular and/or pedestrian safety.

The equipment shroud or cabinet must contain all the equipment associated with the facility other than the antenna. All cables and conduits associated with the equipment must be concealed from view, routed directly through the metal pole (with the exception of wood power poles), and undergrounded between the pole and the ground-mounted cabinet.

### **Location of Pole Mounted Equipment**

All pole mounted equipment must be installed as flush to the pole as possible, using stainless steel banding straps. When the straps are attached to a metal pole, they must match the color of the pole. Through-bolting or use of lag bolts is prohibited. All pole mounted equipment shall be located as close together as possible and if possible, on the same side of the pole.

When pole mounted equipment is either permitted or required, all equipment other than the antenna(s), electric meter, and disconnect switch must be concealed within an equipment cage. The equipment cabinet may not extend more than 12 inches from the face of the pole. The equipment cabinet must be non-reflective, colored to match the existing pole if attached to a metal pole, and in the color of brushed aluminum if attached to a wood pole. Equipment cabinets should be mounted as flush to the pole as possible. Any standoff mount for the equipment cabinet may not exceed 4 inches.

- a) *Electric Meter:* The City strongly encourages site operators to use flat-rate electric service when it would eliminate the need for a meter. When a meter is necessary, site operators shall use the smallest and least intrusive electric meter available. Whenever permitted by the electric service provider, the electric meter base should



be painted to match the pole.

- b) *Telephone/Fiber Optic Utilities:* Cabinets for telephone and/or fiber optic utilities may not extend more than 12 inches from the face of the pole, and must be painted, wrapped, or otherwise colored to match the pole. Microwave or other wireless backhaul is discouraged when it would involve a separate and unconcealed antenna.

## **Undergrounded Equipment Vaults**

Equipment in an environmentally controlled underground vault may be required in some areas.

## **New Wireless Support Structures**

- a) *Spacing:* The City strongly discourages more than one new Wireless Support Structure per block and will not approve more than one per 250 feet on each side of the street to minimize the hazard of poles adjacent to roadways and to minimize visual clutter and distractions to vehicular traffic. An exemption may be granted if the applicant can demonstrate that this restriction will have the effect of preventing wireless service to the location. Wireless Support Structures shall be spaced apart from Utility Poles or Wireless Support Structures supporting Small Cell Facilities at the same spacing between Utility Poles in the immediate proximity.

If multiple requests are received to install two or more poles that would violate the spacing requirement or to collocate two or more Small Cell Facilities on the same Wireless Support Structure, priority will be given to the first request received that meets these guidelines.

- b) *Alignment with Other Poles:* The centerline of any new Wireless Support Structure must be aligned, as much as possible, with the centerlines of existing poles on the same street segment, but only if the new structure's height does not conflict with overhead power utility lines and facilities.
- c) *General Restrictions on New Wood Poles:* In all locations, the City reserves the right to require a metal pole rather than a wood pole based on the build and/or natural environmental character of the proposed site location.
- d) *Wood Pole Footings and Foundations:* All new wood poles must be direct buried to a depth determined, stamped, sealed, and signed by a professional engineer licensed and registered by the State, and subject to the City's review and approval.
- e) *Metal Pole Footings and Foundations:* All new metal poles must be supported with a reinforced concrete pier. The design including the pier, footings, and anchor bolts shall be stamped, sealed, and signed by a professional engineer licensed and

registered by the State, and subject to the City's review and approval. All anchor bolts must be concealed from public view with an appropriate pole boot or cover subject to the City's prior approval.

- f) *Metal Pole Material:* All metal poles must be constructed from hot-dip galvanized steel or other corrosion-resistant materials approved by the City and finished in accordance with these guidelines to avoid rust stains on adjacent sidewalks, buildings, or other improvements.
- g) *Metal Pole Finish:* Metal poles must be painted in accordance with industry and manufacturer guidelines. The Applicant may select a paint or powder coat system in compliance with ATSM standards.
- h) *Lighting, Planters, Flags, and Banners:* The City may require the applicant to install functional streetlights and/or brackets to hold hanging flower planters, flags and/or banners when technically feasible and the City determines that such additions will enhance the overall appearance and usefulness of the proposed facility. The City, without further notice to any party, may install hanging flower planters, flags and/or banners utilizing the brackets described in this paragraph.

## **8. UNDERGROUNDING REQUIREMENTS**

The City may request to install structures and facilities in the right-of-way in an area where the City has required or has designated all structures and facilities except those owned by the City to be placed underground or elsewhere in the right-of-way or a utility easement. These areas are easily identifiable as those locations where electric has been placed underground; however, if an applicant is uncertain as to whether such facilities have been placed underground in the area, the applicant should contact the City for clarification before apply for or installing any Wireless Support Structures and/or Small Cell Facilities in the area. The applicant may request a waiver if the operator is unable to achieve its service objective using a location in the right-of-way where the prohibition does not apply, in a utility easement the operator has the right to access, or in or on other suitable locations or structures made available by the City at reasonable rates, fees, and terms.

## **9. AESTHETIC REQUIREMENTS**

### **Concealment**

- a) *New Wireless Support Structures:* It is the City's preference that all new Wireless Support Structures be as unobtrusive as practicable and fit the character of the surrounding development.
- b) *Small Cell Facilities:* Small Cell Facilities shall be concealed or enclosed, utilizing

stealth and/or other concealment techniques, to the fullest extent possible in an equipment box, cabinet, or other unit that may include ventilation openings. Unless approved by the City in writing, there shall be no external cables and wires hanging off a pole. The approved Small Cell Facility cable or wiring shall be sheathed or enclosed in conduit, so that wires are protected and not visible and/or visually minimized to the extent possible.

- c) *Equipment Enclosures:* Equipment enclosures, including electric meters, shall be as small as possible. Ground-mounted equipment shall incorporate concealment elements into the proposed design. Concealment may include, but shall not be limited to, landscaping, strategic placement in less obtrusive locations, etc.
- d) *Landscaping:* Landscape screening may be required and maintained around ground-mounted equipment enclosures. The planting quantity and size should be such that 100% screening is achieved within two years of installation. The City may grant an exemption from this landscaping requirement based on the characteristics of the specific location for the equipment enclosure. Tree “topping” or the improper pruning of trees is prohibited. Any proposed pruning or removal of trees, shrubs or other landscaping already existing in the right-of-way must be noted in the application and must be approved by the City.

When underground vaults are proposed, they shall be located to minimize disruption to the placement of street trees. Adequate planting depth shall be provided between the top of the vault and the finished grade to allow plants to grow in a healthy condition.

### **Allowed Colors**

All colors shall match the background of any Wireless Support Structure that the facilities are located upon. In the case of existing wood poles, finishes of conduit shall be zinc, aluminum or stainless steel, or colored to match those metal finishes and equipment cabinets shall be the color of brushed aluminum. Ground mounted equipment cabinets shall be the color of brushed aluminum, or such other color that matches the subject Wireless Support Structure and Wireless Facilities, as may be requested by the City.

### **Signage/Lights/Logos/Decals/Cooling Fans**

- a) *Signage:* Operator shall post its name, location identifying information and emergency telephone number in an area on the Small Cell Facility at eye level that is visible to the public. Signage required under this section shall not exceed 4” x 6”, unless otherwise required by law (e.g. RF ground notification signs) or the City. If no cabinet exists, signage shall be placed on the base of the pole.

- b) *Lights*: New Small Cell Facilities and Wireless Support Structures shall not be illuminated, except in accordance with state or federal regulations, or unless illumination is integral to the camouflaging strategy such as design intended to look like a street light pole.
- c) *Logos/Decals*: Operator shall remove or paint over unnecessary equipment manufacturer decals. New Small Cell Facilities and Wireless Support Structures shall not include advertisements and may only display information required by a federal, state or local agency. Operators shall also utilize the smallest and lowest visibility radio-frequency (RF) warning sticker required by government or electric utility regulations and place the RF sticker as close to the antenna as possible.
- d) *Cooling Fans*: In residential areas, use a passive cooling system. In the event that a fan is absolutely necessary, use a cooling fan with a low noise profile.

## **10. INSTALLATION AND INSPECTION**

- a) *Completion within 180 days*: The collocation or construction of a new Wireless Support Structure for which a permit is granted shall be completed within 180 days after issuance of the permit unless the City and the applicant mutually agree to extend this period. The City will agree to an extension if the delay is caused by (a) make-ready work for a City-owned facility or (b) the lack of commercial power availability at the site, provided that the operator has made a timely request within 60 days after the issuance of the permit for commercial power. The additional time to complete installation may not exceed 365 days after the issuance of the permit.
- b) *Procedure for Request for Extension of Time*: In situations when completion will not occur within 180 days after issuance of the permit, the applicant may request an extension of time. Such extension request will include the length of time being requested and the reason for the delay. The extension must be filed with the Department of Public Works.

### **Existing Infrastructure - Restoration Requirements**

The permittee and/or its subcontractors shall leave the streets, alleys and other public places where work is done in as good or better condition or repair as they were before such work was commenced and to the reasonable satisfaction of the City.

## **11. INTERFERENCE WITH OPERATIONS**

### **No Liability**

The City shall not be liable to the operator by reason of inconvenience, annoyance, or injury to the Small Cell Facilities, Wireless Support Structures, and related ground or pole mounted

equipment or activities conducted by the operator therefrom, arising from the necessity of repairing any portion of the right-of-way, or from the making of any necessary alteration or improvements, in or to, any portion of the right-of-way, or in, or to, City's fixtures, appurtenances, or equipment.

## **12. REQUIREMENTS FOR REMOVAL, REPLACEMENT, MAINTENANCE, AND REPAIR**

### **Removal or Relocation Required for City Project**

Operator shall remove and relocate the permitted Small Cell Facility and/or Wireless Support Structure at the operator's sole expense to accommodate construction of a public improvement project by the City.

If operator fails to remove or relocate the Small Cell Facility and/or Wireless Support Structure or portion thereof as requested by the City within 120 days of the City's notice, then the City shall be entitled to remove the Small Cell Facility and/or Wireless Support Structure, or portion thereof at operator's sole cost and expense, without further notice to operator.

Operator shall, within 30 days following issuance of invoice for the same, reimburse the City for its reasonable expenses incurred in the removal (including, without limitation, overhead and storage expenses) of the Small Cell Facilities and/or Wireless Support Structure, or portion thereof.

### **Removal Required by City for Safety and Imminent Danger Reasons**

Operator shall, at its sole cost and expense, promptly disconnect, remove, or relocate the applicable Small Cell Facility and/or Wireless Support Structure within the time frame and in the manner required by the City if the City reasonably determines that the disconnection, removal, or relocation of any part of a Small Cell Facility and/or Wireless Support Structure (a) is necessary to protect the public health, safety, welfare, or City property, or (b) operator fails to obtain all applicable licenses, permits, and certifications required by law for its Small Cell Facility and/or Wireless Support Structure.

If the Public Works Director reasonably determines that there is imminent danger to the public, then the City may immediately disconnect, remove, or relocate the applicable Small Cell Facility and/or Wireless Support Structure at the Operator's sole cost and expense.

## **Removal/Abandonment of Facilities**

Operator shall remove a Small Cell Facility and/or Wireless Support Structure when such facilities are abandoned regardless of whether or not it receives notice from the City. Unless the City sends notice that removal must be completed immediately to protect public health, safety, and welfare, the removal must be completed within the earlier of 60 days of the Small Cell Facility and/or Wireless Support Structure being abandoned, or within 60 days of receipt of written notice from the City. When operator abandons permanent structures in the right-of-way, the operator shall notify the City in writing of such abandonment and shall file with the City the location and description of each Small Cell Facility and/or Wireless Support Structure abandoned. Prior to removal, operator must make application to the City and receive approval for such removal.

Operator must obtain a right-of-way permit for the removal. The City may require the operator to complete additional remedial measures necessary for public safety and the integrity of the right-of-way.

The City may, at its option, allow a Small Cell Facility and/ or Wireless Support Structure to remain in the right-of-way and coordinate with the operator to transfer ownership of such Small Cell Facility and/ or Wireless Support Structure to the City, instead of requiring the operator to remove such Small Cell Facility and/or Wireless Support Structure.

## **Restoration**

Operator shall repair any damage to the right-of-way, any facilities located within the right-of-way, and/or the property of any third party resulting from operator's removal or relocation activities (or any other of operator's activities hereunder) within 10 calendar days following the date of such removal or relocation, at operator's sole cost and expense. Restoration of the right-of-way and such property must be to substantially the same, or better, condition as it was immediately before the date operator was granted a permit for the applicable location, or did the work at such location (even if operator did not first obtain a permit). This includes restoration or replacement of any damaged trees, shrubs, or other vegetation. Such repair, restoration, and replacement shall be subject to the sole, reasonable approval of the City.

## **13. GENERAL PROVISIONS**

### **As-Built Maps and Records**

Operator shall maintain accurate maps and other appropriate records of its Small Cell Facilities and Wireless Support Structures as they are actually constructed in the right-

of-way or any other City-owned property. Operator shall maintain a list of its Small Cell Facilities and Wireless Support Structures and provide the City an inventory of locations within 10 days of installation. The inventory shall include GIS coordinates (NAD 83, Ohio State Planes, South Zone, US feet), date of installation, type of Wireless Support Structure used for installation, Wireless Support Structure owner and description/type of installation for each Small Cell Facility and Wireless Support Structure. Operator will provide additional maps to the City upon request.

Upon City's written request, operator shall provide a cumulative inventory within 30 days of the City's request. Concerning Small Cell Facilities and Wireless Support Structures that become inactive, the inventory shall include the same information as active installations in addition to the date the Small Cell Facility and/or Wireless Support Structure was deactivated and the date the Small Cell Facility and/or Wireless Support Structure was removed from the right-of-way. The City may compare the inventory to its records to identify any discrepancies.

### **Generally Applicable Health and Safety Regulations**

All Small Cell Facilities and Wireless Support Structures shall be designed, constructed, operated, and maintained in compliance with all generally applicable health and safety regulations, including without limitation all applicable federal, state, and local regulations for human exposure to RF emissions.

### **Tree Maintenance**

Operator, its contractors, and agents shall obtain written permission from the City before trimming trees in the right-of-way hanging over its Small Cell Facility and/or Wireless Support Structure to prevent branches of such trees from contacting attached Small Cell Facility. When trimming such trees on private property, the operator, its contractors, and agents shall notify the City and obtain written permission from the property owner. When directed by the City, operator shall trim under the supervision and direction of the City. The City shall not be liable for any damages, injuries, or claims arising from operator's actions under this section.

### **Minor Technical Exceptions**

The City recognizes that in some circumstances strict compliance with these guidelines may result in undesirable aesthetic outcomes and that minor deviations should be granted when the need for such deviation arises from circumstances outside the applicant's control.

## **Waivers if Requirements have the Effect of Prohibiting the Provision of Wireless Service to a Location**

In the event that any applicant asserts that strict-compliance with any provision in these design guidelines, as applied to a specific proposed Small Cell Facility, would effectively prohibit the provision of personal wireless services, the City may grant a limited exemption from strict compliance.

## **Graffiti Abatement**

As soon as practical, but not later than 14 calendar days from the date operator receives notice thereof, operator shall remove all graffiti on any of its small cell facilities and/or wireless support structures located in the right of way. The City may agree to an extension of time for abatement when necessitate by the need to order replacement equipment when such equipment is ordered in a timely manner.

If the operator fails to comply with the notice, the City Manager shall thereupon cause the graffiti to be removed, and for such purpose may employ the necessary labor to carry out the provisions of this section. Costs incurred by the City for removing such graffiti shall be entered upon the tax duplicate and shall be a lien upon such lands and property.