

Part 1

Street Excavation

§101. Definitions.

The following words and terms, when used in this Part, have the following meanings, unless the context clearly indicates otherwise.

ACKNOWLEDGMENT OF COMPLETION – the date on which the Township records that permitted work appears to be completed under the permit.

ADJACENT AREA – the area surrounding the immediate area of the permitted work which can reasonably be assumed to have been affected by the permitted work.

BACKFILL – material used to replace or the act of replacing material removed during construction.

BASE COURSE – the layer or layers of specified or selected material or designed thickness placed on a subbase or a subgrade to support a surface course.

BRIDGE – a structure, including supports, erected over a depression or an obstruction, as water, street or railway, which has a track or passageway for carrying traffic or other moving loads and having an opening measured along the center of the pavement of more than 20 feet between supports.

CENTRAL PERMIT OFFICE – the office, which administers this Part, located in the Smith Township Municipal Building, 415 Joffre-Cherry Valley Road, Burgettstown, PA 15021.

CLEAR ZONE – the portion of right-of-way beyond the pavement edge.

CULVERT – a structure under the pavement with an opening of 20 feet or less, measured along the center of the pavement.

DEPARTMENT – the Township of Smith or its representative.

DETOUR – to send traffic by a circuitous route around a portion of a street that has been closed.

ENGINEER – Township of Smith Engineer.

EMERGENCY – an unforeseen occurrence or combination of circumstances which calls for immediate action or remedy.

EMERGENCY PERMIT CARD – Township form used relating to emergency work.

RIGHT-OF-WAY – the area which has been acquired by the Township for street purposes.

RIGID BASE PAVEMENT — a pavement structure which distributes loads to the subgrade having as one course a Portland cement concrete slab of relatively high bending resistance.

ROADBED — the graded portion of a street within top and side slopes, prepared as a foundation for the pavement and shoulder.

SEAL COAT — a thin treatment consisting of bituminous or other approved material, usually with cover aggregate, applied to a surface course.

SELECT GRANULAR MATERIAL or 2 RC — a material meeting specifications in §703.3 of Department of Transportation Publication 408.

SHOULDER — the existing improved or graded portion of the street, contiguous to the traffic lanes, for accommodation of stopped vehicles, for emergency use or for lateral support of base and surface courses of pavements.

STREET — any Township street, alley or other Township thoroughfare located in the Township of Smith and established for the use of vehicles and pedestrians.

SUBBASE — the layers of specified or selected material of designed thickness placed on a subgrade to support a base course.

SUBGRADE — the top surface of a roadbed upon which the pavement structure and shoulders, including curbs, are constructed.

SUITABLE MATERIAL — soil, granular material or shale meeting specifications in §206.2 of Publication 408.

SUPPLEMENT — an amendment to a street occupancy permit.

SURFACE COURSE — one or more layers of a pavement structure designed to accommodate the traffic load, the top layer of which resists skidding, traffic abrasion and the disintegrating effects of the climate. The top layer is sometimes called the "wearing course."

TACK COAT — an application of bituminous material to an existing surface to provide bond with a superimposed course.

TEST HOLE — an exploratory opening of less than 100 square inches.

TOWNSHIP – Township of Smith.

- E. An applicant under this Part shall provide satisfactory evidence to the Township of ability to completely discharge construction, maintenance and financial duties imposed by this Part. An applicant shall provide satisfactory evidence that the proposed application will not be inconsistent with the structural integrity of the right-of-way, the Township's maintenance responsibilities or the safe and convenient passage of traffic. The Township may require security, including but not limited to:
- (1) Executing indemnity agreements satisfactory to the Township.
 - (2) Obtaining insurance in a form and amount acceptable to the Township.
 - (3) Obtaining surety bonds in a form and amount acceptable to the Township to guarantee restoration of the permitted area in a manner satisfactory to the Township for a period of at least two years after the acknowledged completion of the permitted work.
 - (4) Depositing sufficient currency in an escrow account acceptable to the Township to fully secure the obligations in Subsection E(3) as an alternative to the obtaining of the surety bonds.
 - (5) The use of bonded contractors as well as consultants and engineers having professional liability insurance.
 - (6) An applicant shall submit a detailed traffic control plan for permitted work.
 - (7) The permit is nontransferable.
 - (8) Payment of all required fees.

(Ord. 2001-2, 3/12/2000, §3)

§104. Where to Submit Application.

A permit application shall be submitted to the Township of Smith at the Township Municipal Building located at 415 Joffre Cherry Valley Road, Burgettstown, PA 15021 during normal working hours. The permit application shall be submitted at least 30 days prior to the anticipated start of work.

(Ord. 2001-2, 3/12/2000, §4)

a detailed drawing, showing actual site conditions and the necessary traffic control requirements for the specific project.

(Ord. 2001-2, 3/12/2000, §6)

§107. Accuracy of Application and Penalty.

1. The applicant is responsible for the accuracy of the information submitted to the Township including, the application, plans, drawings, reports and correspondence:
 - A. **Penalty for Falsifying Application.** Information provided in applications shall be accurate. Section 4904 of the Crimes Code (relating to unsworn falsification to authorities) makes it a misdemeanor of the second degree for a person to mislead a public servant in performing an official function by making a written false statement which the person does not believe to be true. The Township will examine and determine the genuineness, regularity and legality of every application and may reject an application if not satisfied as to its genuineness, regularity or legality or the truth of a statement contained in the application. The Township may also make investigations and require additional information as it deems necessary.
 - B. **Debarred Persons.** The Township may debar a person, including permittees, consultants, contractors and their employees, agents, successors and assigns, from placing a facility, working within any street right-of-way under permit, directing work or having involvement in a permit issued or an application submitted under this Part, for one or more of the following:
 - (1) Unsatisfactory past performance, as documented by records, reports or performance ratings.
 - (2) Failure to complete permitted work under the permit and this Part, as documented by records, reports or performance ratings.
 - (3) Bribing, attempting to bribe or giving gratuities to a Township employee or a permit inspector.

(Ord. 2001-2, 3/12/2000, §7)

§108. Permit Fees.

Application fees charged to defray costs incurred by the Township in reviewing and processing the applications and plans, including the preliminary review of the site location identified in the application, whether or not a permit is issued and processed, shall be as follows:

- A. Application fee: \$55.

- (4) Crossings (for example, overhead tipples, conveyors or pedestrian walkways and undergrade subways or mines): \$85.
- E. Exemptions. Permit application fees and general permit inspection fees are not required from the following:
- (1) The commonwealth.
 - (2) The installation or maintenance of streetlighting at the request of the Township.
 - (3) The replacement or renewal of utility facilities prior to Township maintenance project after notice from the Township.
 - (4) The removal of poles and attached appurtenances.
 - (5) Facilities moved at the request of the Township.
- F. Additional Application Fee. If the Township anticipates that the cost of reviewing the required application information or inspecting the permitted work will exceed the application or inspection fees listed in this section by a significant amount, the following additional fees will be assessed:
- (1) Additional Application Fee. The Township will estimate the additional amount of salary, overhead and expenses and prepare a reimbursement agreement for execution by the applicant. Township review of the permit application will commence on the effective date of the agreement.
 - (2) Additional Inspection Fees. If the Township determines that the permitted work is of sufficient magnitude or importance to warrant assignment of one or more persons to inspect the permitted work on a more than spot inspection basis, the permit will so indicate, and the permittee shall be charged for additional salary, overhead and expenses incurred by the Township for inspection.
 - (3) Charge Calculation. The charges will be calculated either on an actual cost basis or a standard unit cost basis.
 - (4) Invoices. The Township will provide an itemized invoice for additional fees owed to the Township.
- G. Refunds. The Township will refund the general permit inspection fees on unused permits. To be eligible to receive a refund, the permittee shall deliver the request with the permittee's copy of the permit to the issuing officer on or before the permit expiration date.

extending the permit expiration date. A permit is valid for a six-month period, or multiples thereof as specified on the permit, subject to the following conditions:

- A. If the permittee has not completed authorized work by the completion date specified on the permit, an application shall be submitted requesting a time extension on the permit.
- B. If approved, a supplement to the permit authorizing a new completion date will be issued by the Township.
- C. No extension of the permit will be authorized unless the permittee obtains an extension on the duration of a bond, insurance or other security required under this Part, which extension of the bond, insurance or other security corresponds with the permit time extension. The permittee shall provide evidence of the extension to the Township.
- D. No work may be performed on an expired permit until a time extension supplement or new permit is obtained.
- E. No time extension supplement will be issued for a request received more than 30 days after the expiration of the permit. In that case, an application for a new permit may be submitted to the district office.
- F. Work Completion Notification. When permitted work has been completed, the permittee shall notify, in writing, the Township office.

(Ord. 2001-2, 3/12/2000, §9)

§110. Emergency Work.

- 1. General Rule. Emergency repairs involving the placing of facilities or opening of the surface within the right-of-way may be performed prior to obtaining a permit if the following procedure is adhered to:
 - A. Utility owners or operators may obtain emergency permit cards by submitting an application on company stationary to the Township. The application shall be accompanied by a check or money order, in the amount specified in §108 (relating to permit fees). The utility facility owner or operator shall promptly notify the Township office by telephone when the necessity for an emergency repair occurs during the hours of 7:00 a.m. to 3:00 p.m., Monday through Friday. Emergency work occurring at other times shall be reported to the Township office on the following workday.
 - B. Prior to opening the surface or placing utility facilities within right-of-way, the utility work crew shall enter the following information on the emergency permit card in legible handwriting, using indelible ink:

- (2) The permit shall be located at the work site and be available for inspection by a police officer or a representative of the Township.
- (3) The permit shall be maintained by the permittee as a permanent record and remain in effect, subject to the permit conditions and this Part, as long as the permittee's facilities authorized by the permit occupy the right-of-way.
- (4) Responsibility for compliance with the terms of the permit may not be assigned or transferred by the permittee without first obtaining approval from the Township. If a permit is assigned or transferred without first obtaining approval from the Township, the assignment or transfer is void. The permit assigned or transferred also becomes void. A facility installed under the authority of the permit shall be subject to removal at the expense of the applicant to which the permit was issued or its assignees or both.
- (5) The permittee is liable to the Township for failure to comply with the permit and this Part. The liability of the permittee to the Township does not preclude the permittee or the Township from bringing an action against the permittee's contractor, subcontractor, engineer, architect, assignee, agent, workers, employees or other persons.

B. Additional Restrictions. Work authorized by the permit is subject to:

- (1) Applicable laws, rules and regulations, including but not limited to:
 - (a) The Act of October 26, 1972, concerning environmental control measures related to pollution and the preservation of public natural resources.
 - (b) The Act of December 10, 1974, concerning protection of the public health and safety by preventing excavation or demolition work from damaging underground utility facilities.
 - (c) The Clean Streams Law.
 - (d) OSHA construction safety and health regulations.
 - (e) Civil Rights Act of 1964.
 - (f) The rights of any person.
 - (g) The conditions, restrictions and provisions of the permit.

C. Work to Conform to the Township Standards. Work shall conform to the Township standards, including the following:

is authorized to appear for the permittee and to enter an amicable action of ejectment and confess judgment against the permittee; additionally, the attorney or Solicitor is authorized to issue, forthwith, a writ of possession with a clause of fieri fascias for costs and expenses, without leave of court.

- (3) At the end of a workday, an opening in the right-of-way shall be covered, backfilled or protected. If work is stopped on a project other than at the end of a normal workday, the permittee shall promptly backfill the opening and restore the surface and work may not be resumed until the permittee is prepared to proceed with the work to its completion. If the permittee fails to backfill the opening or proceed until completion of the work, the Township reserves the right to do the work upon notice to the permittee, where practicable, and shall be reimbursed for the costs by the permittee within 30 days after receipt of the Township's invoice.
- (4) If the permittee, after making an opening in the surface to place or repair a facility or for another purpose, fails to restore a portion of the right-of-way to conform with this section, the Township reserves the right to do the work upon notice to the permittee, if practicable, and the permittee shall reimburse the Township for the costs within 30 days after receipt of the Township's invoice.
- (5) If backfill or restoration work will be performed for the permittee by a contractor, the permittee shall identify to the Township both its contractor and its inspector in charge, who shall be assigned to monitor backfill and restoration work performed within the improved area. The permittee's inspector in charge, as well as the permittee, is responsible for ensuring work is performed in compliance with the permit, this Part and Publication 408.
- (6) The permittee shall notify the Township at least three full workdays prior to the start of work when the permit identifies that the permitted work will be inspected on a more than a spot inspection basis.

E. Altering Drainage Prohibited. Altering drainage shall be prohibited by the following conditions:

- (1) Unless specifically authorized by the permit, the permittee may not:
 - (a) Alter the existing drainage pattern or the existing flow of drainage water.
 - (b) Direct additional drainage of surface water toward, onto or into or in any way affects the street right-of-way or street facilities.

and the applicable provisions of Ordinance 203 (relating to work zone traffic control).

- H. Streets Under Construction. No permit application will be approved for occupancy of a section of right-of-way within which a street or reconstruction project is underway, or if a contract for such a project has been let, until the project is completed and accepted by the Township, unless the application is accompanied by an attested certificate signed by the contractor or other authority constructing the project, consenting to the proposed work of the applicant within the right-of-way, together with a waiver, release and quit-claim to the Township of damages and defenses for delays by reason of that work and occupation of the right-of-way by the permittee, or from a cause resulting by reason of that work and occupation. This subsection does not apply:
- (1) To an emergency. In an emergency, the permittee shall procure the consent of the Township to do the work as deemed necessary to correct the existing emergency condition.
 - (2) If the permittee has been authorized by the Township to relocate or adjust its facilities simultaneously with street construction.
- I. Indemnification. Indemnification of the Township for property and personal injury will be governed as follows:
- (1) The permittee shall fully indemnify and save harmless and, if requested, defend the Township, its officers, agents and employees, of and from liability for damages or injury to persons or property in a claim or suit seeking to impose liability on the Township, its officers, agents or employees, arising out of an act or omission of a contractor, agent, servant, employee or person engaged or employed in, about or upon the work, by, at the instance of or with the approval or consent of the permittee, including a failure of the permittee or a person to comply with the permit or this Part.
 - (2) The permittee shall have the Township added as an additional insured to its or its contractor's insurance policy to secure the permittee's indemnification of the Township for property damage and personal injury under this subsection. The coverage of the Township as an additional insured shall be limited to the acts or omissions of the permittee or its contractor, as described in Subsection F(2)(a). The amount of insurance shall be at least \$250,000 per person and at least \$1,000,000 per occurrence or other statutory limitations on damages as the Township Council may establish. The policy shall be of a duration satisfactory to the Township.
 - (3) Upon request, the permittee shall deliver to the Township office certificates in insurance evidencing that the coverage required under

ter the acknowledged completion of the permitted work and there is no similar failure of the street beyond the area of the permitted work, the permittee has absolute responsibility to make temporary and permanent restoration of this area, unless the permittee delivers clear and convincing evidence to the Township office demonstrating that the street failure was caused by another person.

- (2) In a situation where the permittee has the responsibility to restore the street, including a slope or another appurtenance thereto, under Subsection F(2)(a), the permittee has the duty to restore the improved area in accordance with the permit. If the permittee fails to restore the improved area properly, the Township will have the authority to do the work at the expense of the permittee. The permittee shall reimburse the Township for the costs plus 10% within 30 days after receipt of the Township's invoice.
- (3) The obtaining of a bond, other security or an agreement described in §109 to secure restoration costs does not relieve the permittee of the restoration obligations imposed by Subsection F(2)(a) and (b), nor does it relieve the permittee of its obligations under Subsections I and J. The obtaining of a bond, other security or an agreement will not act as a release of the permittee from liability under principles of tort law with respect to a failure of the street in the permitted area occurring after the expiration of the bond, other security or agreement.

- N. Future Street Changes. If in the future the street is altered for public convenience or necessity, the permittee shall, at its own cost and expense, change or relocate all or a part of the structures or facilities authorized by the permit which interfere with the street alterations or which is inconsistent with the purpose of the street alterations.
- O. Acknowledgment by Inspector. Acknowledgment by the inspector of the Township that all or part of the permitted work has been completed does not constitute approval or acceptance of the work or agreement that work was performed in accordance with the permit. Acknowledgment of completion by the Township will not act as a release of the permittee or waiver by the Township of its right to seek performance or restitution from the permittee.

(Ord. 2001-2, 3/12/2000, §11)

§112. Special Conditions; Subsurface Operations.

1. Drilling, Boring, Driving or Tunneling Across Improved Area. Drilling, boring, driving or tunneling across improved areas shall comply with the following conditions:

- (a) The street unpaved.
 - (b) The Township's wearing course is older than 12 years and the street average daily traffic (ADT) does not exceed 250.
- C. When trenching is authorized by permit, the trenching operation shall be performed by one of the following methods:
- (1) Utility facility placed in one piece across street.
 - (a) Traffic shall be routed over 1/2 of the pavement width.
 - (b) The closed half of the pavement shall be opened to the required depth and bridged with steel plates.
 - (c) Traffic shall be shifted to the bridged half of the pavement.
 - (d) The remaining half of the pavement shall be opened to the required depth.
 - (e) The facility shall be placed full width.
 - (f) The open trench shall be backfilled and restored half-width in accordance with this section.
 - (g) Traffic shall be shifted to the restored half of the pavement.
 - (h) The bridging shall be removed and the remaining half of the trench shall be backfilled and restored in accordance with this section.
 - (2) Utility facility placed in more than one piece across street.
 - (a) Traffic shall be routed over 1/2 of the pavement width.
 - (b) The closed half of the pavement shall be opened to the required depth, the facility placed and the trench backfilled and restored in accordance with this section.
 - (c) Traffic shall be shifted to the restored half of the pavement.
 - (d) The remaining half of the pavement shall be opened to the required depth, the facility placed and trench backfilled and restored in accordance with the provisions of this section.
- D. The permittee shall protect its openings to provide for the safety of the traveling public, including motorists, bicyclists and pedestrians.

- (iii) Protected under Ordinance 203 and an approved traffic control plan, if the permittee has delivered certificates of insurance under §111, General Conditions.

G. Disposition of Materials. The responsibility of the permittee for disposition of materials is as follows:

- (1) The permittee shall keep the improved area free of material which may be deposited by vehicles traveling upon or entering onto the street during the performance of work authorized by the permit.
- (2) The permittee is responsible for controlling dust conditions created by its own operations.
- (3) Excess material and material that is not suitable for backfill shall be promptly removed and properly disposed of outside the right-of-way as the work progresses.
- (4) Other material shall be stored under §111 (relating to general requirements) and so that there will be no interference with the flow of street progresses.
- (5) The permittee is not authorized to close a portion of the pavement or shoulder to traffic for the primary purpose of storing material. If the permittee stores material on the pavement or shoulder, the permittee thereby acknowledges its obligation and commitment to repair or reconstruct the pavement and shoulder, if damaged, to its former condition, in a manner authorized by the Township. Delivered material may not be stored overnight on the pavement.
- (6) The Township may authorize the permittee to restore the pavement or shoulder from superficial damage with a seal coat or surface treatment.

H. Backfilling. An opening shall be backfilled by the permittee in accordance with the following:

- (1) The opening may first be backfilled with fine aggregate material, meeting the requirements of §703.1 of Publication 408, or granular material to protect the facility, placed to a height not to exceed one foot over the top of the facility, if the material is compacted in not more than four-inch loose layers. To protect the facility, the permittee is to place a permanent colored ribbon at least one foot above its facility.
- (2) The opening shall then be backfilled with select granular material or other coarse aggregate material meeting the requirements of §703.2 of Publication 408, as specified in the permit. Select granular material or

- (1) Exposed vertical and horizontal surfaces shall be prepared under §401.3 of Publication 408.
- (2) The base course shall consist of a binder course and shall consist of ID-2 material meeting the requirements of §421 of Publication 408. The base course material shall have a minimum depth of six inches or a depth equal to the existing base course, whichever is greater.
- (3) The wearing course shall consist of ID-2 material meeting the requirements of §420 of Publication 408 or FJ-1 material meeting the requirements of §422 of Publication 408. The wearing course shall have a minimum depth of 2 1/2 inches or a depth equal to the existing wearing course, whichever is greater.

J. Restoration of Plain or Reinforced Cement Concrete Pavements. Base and surface restoration of plain or reinforced cement concrete pavements shall be performed under this subsection and as specified in the permit. Drilling is not permitted where sawing or cutting is required.

- (1) Prior to replacement of the pavement, one foot outside of each of the opening shall be sawed the full depth of the pavement in a neat straight line. The detached material shall be removed without damaging the adjacent pavement. The use of a pavement breaker is prohibited. The permittee may partially saw cut the pavement to a depth of at least four inches and cut the remaining pavement with a jackhammer weighing no more than 90 pounds if:
 - (a) The restored opening does not exceed six feet in either length or width.
 - (b) The restored opening is at least two feet from a pavement edge or joint.
 - (c) The street average daily traffic (ADT) does not exceed 700.
- (2) The replacement pavement shall consist of high early strength concrete equal in depth to the original concrete pavement or to a depth of eight inches, whichever is greater.
- (3) On existing reinforced cement concrete pavements that are opened for more than six feet in either length or width, reinforcing steel, expansion tie bolts.
- (4) The permittee may be required to restore the structural integrity of damaged cement concrete pavement by:
 - (a) Replacing the opened pavement transversely the full lane width.

- (2) Temporary pavement restoration shall be completed before traffic is allowed to travel on the disturbed area. The temporary pavement may be kept in place for up to four months or as specified in the permit, it must be properly maintained.

M. Appurtenances to Underground Installations. Requirements relating to appurtenances to underground installations shall include:

- (1) The top of every manhole, valve box or other access to the facility shall be at the same elevation as the surface in which it is located.
- (2) The surface surrounding manhole covers located in paved shoulders shall be paved with six inches bituminous concrete base course a distance of at least three feet around the structure.
- (3) A manhole including those cast in place, shall be constructed in compliance with current industry standards and §713.2 of Publication 408.

N. Additional Restoration. Additional restoration shall be required as follows:

- (1) Disturbed portions of the street, including but not limited to slopes and appurtenances and structures such as guide rails, curbs, signs, markings, drain pipes, driveway and vegetation, shall be restored by the permittee to a condition at least equal to that which existed before the start of work authorized by the permit. Additional restoration may also be required, upon written notification, to restore the structural integrity of the pavement or shoulder.
- (2) If the permittee opens pavement having a bituminous concrete surface and the Township's wearing course is less than 10 years old, the permittee shall, in addition to the restoration conditions outlined in the permit and this section, overlay the pavement in accordance with the following conditions:
 - (a) When a longitudinal opening longer than 100 linear feet has been made in the pavement, the permittee shall overlay the traffic lanes in which the opening was made, for the entire length of the street that was opened, in a manner authorized by the Township.
 - (b) When two or more transverse openings have been made within 100 linear feet of the pavement, the permittee shall overlay traffic lanes in which the openings were made, for the entire length of the street between the openings, in a manner authorized by the Township.

§113. Special Conditions; Aboveground Facilities.

1. General Rule. A permit will not be issued to install above ground facilities at a location which the Township determines to have a high accident potential.
 - A. Location of Above Facilities. The location of an aboveground facility shall be:
 - (1) New poles and other above ground facilities shall be installed outside the street clear zone as near the right-of-way line as practicable.
 - (2) Replacement of poles and other above ground facilities shall comply with the permit and applicable provisions of this Part.
 - B. Location of Wires, Cables or Conductors. A wire, cable or conductor which overhangs a portion of the right-of-way shall be placed to provide a minimum vertical clearance of 18 feet over the pavement and shoulder, except where the National Electrical Safety Code requires vertical clearances in excess of 18 feet due to voltage or span lengths.
 - C. Guys. A guy shall be placed and insulated in the following manner:
 - (1) A guy shall be placed to avoid interference with vehicular or pedestrian traffic.
 - (2) A guy shall be insulated or grounded in compliance with the National Electrical Safety Code.
 - D. Identification of poles. A pole shall bear the name or initials of the facility owner and the pole numbers assigned by the facility owner.

(Ord. 2001-2, 3/12/2000, §13)

§114. Penalties and Enforcement.

1. General Rule. Violation of this Part or the permit requirements constitutes grounds for imposition of the following sanctions and/or penalties which are in addition to and not in limitation of the penalties and/or sanctions provided in §111 above.
 - A. Upon receipt of oral or written notice of violations from the authorized representative of the Township or a police officer whose jurisdiction includes the permitted work area, the permittee shall cease to perform any further work in the permitted area except to restore the area to a safe condition. No further work may commence in the permitted area until the violations have been remedied. Where the permittee has received oral notice of the violations, written notice shall be sent to the permittee within 10 days of receipt of the oral notice.

3. Any term or condition of this Part, as pertains to specific performance requirements and/or specification, may be modified by resolution of the Board of Supervisors.

(Ord. 2001-2, 3/12/2000, §15)