



City of Flagstaff, AZ

Special Provisions

Industrial Drive & Fanning Wash Improvements

N. Eagle Mountain Dr. to Huntington Drive

Project # ST 3056 / 03-09008

April 2019

PART 000 – INTRODUCTION

The plans, the standard specifications, the standard details, the special provisions, the contracting agency's supplements and all supplementary documents are essential parts of the contract and a requirement occurring in one is as binding as though occurring in all. They are intended to be complementary and to be described and provide for a complete work.

SPECIFICATIONS

The work shall be performed in accordance with the most recent version of the Construction Plans, this Contract Document, the Maricopa Association of Governments (MAG) Uniform Standard Specifications and Details for Public Works Construction and the following engineering standards and specifications:

City of Flagstaff Engineering Design Standards and Specifications for New Infrastructure

City of Flagstaff Revisions to the MAG Uniform Standard Specifications and Standard Details

City of Flagstaff General Provisions

City of Flagstaff Stormwater Management Design Manual

Arizona Department of Transportation Standard Specifications and Details, most recent editions that Apply to the project

U.S. Department of Transportation, Federal Highway Administration, Manual on Uniform Traffic Control Devices for Streets and Highways

Arizona Department of Environmental Quality Engineering Bulletin No. 10

American Water Works Association Standards

The Contractor is responsible for obtaining, at his/her own expense, a copy of each of the specifications and details listed above.

MAG UNIFORM SPECIFICATIONS FOR PUBLIC WORKS AND CONSTRUCTION
AND
CITY OF FLAGSTAFF ENGINEERING DESIGN STANDARDS AND SPECIFICATONS FOR NEW
INFRASTRUCTURE & CoF GENERAL PROVISIONS
ARE HEREBY AMENDED TO INCLUDE THE FOLLOWING:

SECTION 102 – BIDDING REQUIREMENTS AND CONDITIONS

102.4 EXAMINATION OF PLANS, SPECIAL PROVISIONS AND SITE WORK:

(Revise the second paragraph to read)

The bidder shall examine the site of the proposed work and all documents pertaining to the work. It is mutually agreed that the submission of a proposal shall be considered prima facie evidence that the bidder has made such examination and is familiar with the character, quality and quantity of the work to be performed and material to be furnished *to complete the project as intended*.

SECTION 104 – SCOPE OF WORK

104.1.1 GENERAL

(Revise MAG to include the following)

The Industrial Drive Improvements project is the third phase of the City of Flagstaff's overall project to improve the roadway at Industrial Drive. Surface improvements include: roadway reconstruction and widening between Eagle Mountain Drive and Huntington Drive. This will require new curbing, gutter & sidewalks along with a new pavement section, pavement milling & overlay, retaining walls, driveways and street lights. Utility improvements include the replacement of a water line and construction of a culvert crossing at Fanning Drive Wash.

104.1.2 MAINTENANCE OF TRAFFIC

(Revise MAG to include the following)

The Contractor shall prepare and submit a detailed traffic control plan to the City for review and approval.

Detailed traffic control plans shall include provisions for business access the adjacent private property within the project area. The Contractor may temporarily limit vehicular and pedestrian traffic to properties, through advance written notice and coordination with the City's project manager, the affected property owners and the City Engineer. The Contractor shall be required to provide at least one (1) week advance written notice of seven (7) calendar days of all street closures and traffic restrictions. The notice shall include the projected date, and duration of the closure and alternate detour routes. Each notice shall include the Contractor's name, contact person and local telephone number as well as the Owner's name and telephone number. Detour routes shall remain open for the duration of the project. Access shall be provided during nonworking hours.

Existing pedestrian and bicycle facilities shall be routed around the construction zone. The Contractor is responsible for securing the construction site and maintaining safe passage for pedestrian and bicycle traffic.

Special Access Requirements:

The Contractor shall maintain access to all side streets, access roads, driveways, parking lots and to adjacent businesses at all times during their hours of operation. In the event that construction work for the project is not occurring during Block-Lite business hours, access to Block-Lite driveways shall be still be maintained.

Should it be necessary to close access to private property, business, or driveways, the closure must be for as short a time as possible and be restored at the end of the work shift. If primary business access cannot be restored, the Contractor shall provide an alternate access, which will be coordinated with the business and pre-approved by the Owner prior to any restrictions being implemented consistent with previous provisions.

BNSF Right-of-Way (ROW):

The BNSF railroad ROW is only accessible to BNSF and its approved agents. The BNSF ROW is not accessible to the contractor, franchise utilities, or to the City of Flagstaff. The Contractor shall take measures including surveying and marking ROW boundaries if appropriate to ensure that no equipment or personnel from the construction team enter the BNSF ROW.

Sanitation Pickup:

In the project area, trash pickup is scheduled every Friday and recycle pickup is scheduled every Wednesday. When construction activity interferes with pickup, the Contractor shall provide for sanitation vehicle access to the affected properties or relocate the trash containers where access is acceptable. The Environmental Division of the Public Works Department contact is (928) 774-0668.

Traffic Control and Safety:

At the time of the Pre-construction Conference, the Contractor shall designate an employee, other than the Project Superintendent, who is well qualified and experienced in construction traffic control and safety, to be available on the project site during all periods of construction to coordinate and maintain safe barricading whenever construction restricts traffic. The Contractor shall designate and provide the contact information of one person who shall be available during non-construction hours in case any traffic control and/or safety items need to be handled in an urgent manner. This representative must be within 20 minutes response time from the project area and must be able to operate equipment. Traffic control shall include pedestrian as well as vehicle traffic.

Emergency Access:

Street closure information shall be submitted to the City's Project Manager who will forward the information to the Fire Department and Police Department. All notices shall be submitted at least 72 hours in advance of the closures.

U.S. Postal Service Access:

The Contractor shall be responsible for maintaining access for Postal Service within the project area at all times. The Contractor shall coordinate this work to avoid interruption of mail service. Mailboxes shall be protected in place. Should an existing mailbox be damaged by construction activity, the Contractor shall promptly remove and replace the damaged mailbox with like kind, including post and foundation, at no cost to the resident or the City. Placement of any mailbox shall be in accordance with USPS requirements.

SECTION 105 – CONTROL OF WORK

105.6 COOPERATION WITH UTILITIES

(Revise MAG to include the following)

Existing utilities have been shown on the plans to the greatest extent possible, but there is no guarantee that all utility conflicts have been identified. The Contractor shall notify all utility companies, the City of Flagstaff, the Flagstaff Police Department and other emergency services agencies (ambulance, fire, etc.) of his/her intent to begin work. The Contractor shall contact the Blue Stake service by calling 8-1-1 or 1-800-STAKE-IT at least 2 working days before beginning work. The Contractor shall exercise all care to avoid damaging utilities whether shown on the plans, staked in the field, or not.

The project includes work over and around the Unisource gas line. The Contractor is notified that the gas line depth has not been located within the project boundaries and is likely shallow with respect to the proposed grades. The Contractor shall locate the gas line prior to demolition, trenching or grading.

Block-Lite uses water in its manufacturing processes and maintenance processes. **The Contractor shall plan the work so that Block-Lite has a continuous supply of water during its manufacturing and maintenance processes during the project construction.** However, Block-Lite does not have a continuous process and experiences periods where water may not be essential. The Contractor is responsible for scheduling the water service switch over so that work is not interrupted. The water service connection shall be coordinated through the City of Flagstaff Engineering Inspector.

105.8 CONSTRUCTION STAKES, LINES AND GRADES

(Revise MAG to include the following)

Unless noted otherwise in the contract documents, the Contractor shall layout the work from the lines, grades and dimensions shown on the drawings. The Contractor shall be responsible for all such work for the duration of the project. The Contractor shall immediately notify the City in writing of any dimension or grade errors, before proceeding with the work.

105.12 MAINTENANCE DURING CONSTRUCTION

(Revise MAG to include the following)

The Contractor is required to protect work during inclement weather. Adequate drainage of the construction area shall always be provided. Construction drains shall be provided as needed to enable water to drain from the construction area rapidly and without damaging work in progress or adjacent properties. To further promote good drainage of the site, drainage channels, culverts, and structures, shall be constructed from downstream to upstream in such a way that, during construction, they do not impede the flow of water from the construction area. The Contractor shall utilize pumps to remove ponding water immediately during all stages of construction including working and non-working hours. Damage to any portion of the work caused by the Contractor's failure to provide adequate drainage of the construction area, or to sequence the work to minimize the possible extent of such damage, shall be repaired at the Contractor's expense. No extension of time shall be granted because of the time required to make such repairs.

SECTION 106 – CONTROL OF MATERIALS

106.2 SAMPLES AND TESTS OF MATERIALS

(Revise MAG to include the following)

Contractor Quality Control:

The Contractor is responsible for quality control measures necessary to provide acceptable quality in the production, handling, and placement of all materials. No payment will be made for such measures, the cost being considered as included in contract items.

SECTION 107 – LEGAL REGULATIONS AND RESPONSIBILITY TO PUBLIC

107.9 PROTECTION AND RESTORATION OF PROPERTY AND LANDSCAPE

(Revise MAG to include the following)

The Contractor shall take special care to control construction-related dust and noise and to keep the project site cleaned up to the greatest extent possible.

Survey monuments and property corners shall be protected and not disturbed unless specifically called out on the plans for replacement. All costs associated with protecting or re-establishing disturbed survey monuments and property corners shall be borne solely by the Contractor.

The Contractor is responsible for replacing and/or restoring, to the pre-existing condition, all owner improvements and landscaping (including but not limited to fences, retaining walls, landscape walls, pavers, aggregate rock ground cover, plantings, sod) impacted by the project. All cost shall be included in the bid as incidental to the work, unless specified in the bid schedule or plans.

The Contractor is responsible for removing existing improvements and salvaging items for relocation after the public improvements are finished, unless otherwise specified in the construction plans. This may necessitate close coordination with property owners. The Contractor is responsible for replacing materials in like kind. All cost shall be included in the bid as incidental to the work.

107.11 CONTRACTOR'S RESPONSIBILITY FOR UTILITY PROPERTY AND SERVICES

(Revise MAG to include the following)

The Contractor is responsible for providing written notification to each affected property owner/resident at least 48 hours prior to any disruption to water service in the construction area. The notice must include the exact time of the disruption of service and the expected duration of the loss of service.

Not all service lines are shown on the plans and it is the Contractor's responsibility to determine their location in the field at the beginning of the project. The Contractor shall coordinate all necessary utility relocations directly with the appropriate utility franchise and provide sufficient time for response prior to construction of the improvements.

Protection or repair of existing service lines not in conflict with the work is also considered incidental. If there is a physical conflict between an existing service line and the proposed work, the Contractor shall immediately notify the Engineer of the conflict. The Owner will decide as to how the conflict will be resolved. Any extra work required because of an unforeseen service conflict will be ordered and paid for in accordance with General Provision Section 104.2.3.

Locations of underground utilities shown on the plans are to be regarded as approximate only. Locating existing utility conflicts in advance of the utility relocations is an important element of this project. Failure of the Contractor to locate utility conflicts at least two weeks in advance of the construction activities will diminish the Contractor's ability to make a claim for delays for utility relocations.

107.12 FURNISHING RIGHT-OF-WAY
(Revise MAG to include the following)

The Contractor shall ensure that all employees of the Contractor, subcontractors, agents or invitees are clearly informed regarding the proximity of private property boundaries that UNDER NO CIRCUMSTANCES shall any worker cross that boundary into private property, exceptions described below.

Temporary Rights-of-Entry have been obtained from the property owners adjacent to Industrial Drive to allow for grading, sidewalks, driveway connection, utility connections and fence locations.

SECTION 108 – COMMENCEMENT, PROSECUTION AND PROGRESS

108.4.1 WEEKLY CONSTRUCTION MEETING:
(Revise MAG to include the following)

The Contractor's Project Manager and Project Superintendent shall attend weekly construction progress meetings. The Contractor shall be prepared to discuss schedule, construction activities planned for the upcoming two weeks (submit proposed two week schedule), issues, concerns, any information required by the City's Project Representative, construction staking, business/residence/citizen complaints, safety, traffic control and pedestrian access requirements, weather delays experienced during the previous week, disposal of native materials, access/construction coordination with businesses/residences, inspection/testing, overtime worked previous week, payments, water/sewer service disruption, submittals, field orders/field changes and any other business as necessary. The Contractor shall prepare meeting agendas and meeting minutes. Meeting agendas shall be prepared two working days prior to the meeting. Minutes shall be distributed within four working days after the meeting.

108.5 LIMITATIONS OF OPERATIONS:
(Revise MAG to include the following)

All work should be completed during normal work hours (Monday-Friday, 7:00 AM – 5:00 PM). Work on Saturdays will be permitted, as necessary, as approved by the City's Public Works Inspection Supervisor and will require a 72-hour notice. Work on Sundays and legal City holidays will not be permitted except in emergencies.

108.7 DETERMINATION AND EXTENSION OF CONTRACT TIME:

The contract time, including final clean-up of the project site and storage areas, may be extended because of weather conditions that cannot be reasonably anticipated. The number of actual days that the scheduled work is impacted by adverse weather shall be recorded weekly during the construction period.

The Contractor will be entitled to a contract time extension if the actual adverse weather days experienced during the work exceed the anticipated adverse weather days shown. The following is the monthly schedule of adverse weather days that shall be anticipated by the Contractor in scheduling the work:

TABLE 108.7 MONTHLY CALENDAR DAYS for ANTICIPATED ADVERSE WEATHER

<i>MONTH</i>	<i>JANUARY</i>	<i>FEBRUARY</i>	<i>MARCH</i>	<i>APRIL</i>	<i>MAY</i>	<i>JUNE</i>
Monthly Calendar Days for Anticipated Adverse Weather	7 Days	7 Days	8 Days	6 Days	4 Days	3 Days
Average Monthly Precipitation	1.98"	1.96"	2.05"	1.34"	0.68"	0.51"
<i>MONTH</i>	<i>JULY</i>	<i>AUGUST</i>	<i>SEPTEMBER</i>	<i>OCTOBER</i>	<i>NOVEMBER</i>	<i>DECEMBER</i>
Monthly Calendar Days for Anticipated Adverse Weather	12 Days	11 Days	7 Days	5 Days	5 Days	6 Days
Average Monthly Precipitation	2.78"	2.68"	1.82"	1.52"	1.49"	1.90"

The above schedule of anticipated adverse weather days establishes the base line for the project's monthly weather impacts based on historical records, as recorded by the National Weather Service at Pulliam Airport, for precipitation in excess of 0.01 of an inch per calendar day.

The number of actual days that scheduled work is impacted by adverse weather as defined above shall be recorded weekly during the contract period. It is the Contractor's responsibility to request in writing any adverse weather delays experienced during the prior week no later than the normally scheduled weekly project meeting. Any adverse weather day requests that are not received, as stated above, shall neither be considered nor approved. Once the number of approved actual adverse weather days exceeds the number of anticipated adverse weather days in the schedule above, the Contractor is entitled to a contract time extension.

Actual adverse weather days must also prevent work for fifty (50) percent or more of the Contractor's work day and delay scheduled work critical to the timely completion of the project. The City will convert any delays meeting the above requirements to calendar days and extend the contract period as necessary. No additional compensation will be allowed for direct and indirect overhead expenses associated with any such contract time extensions. The Contractor's schedule must include the above anticipated adverse weather delays for all weather dependent activities and shall show all weekends and holidays.

PART 300 – STREETS AND RELATED WORK

SECTION 301 – SUBGRADE PREPARATION

301.1 DESCRIPTION

(Revise the second paragraph to read)

The work under this section shall be in accordance with Section 301 of the MAG Standard Specifications and the Geotechnical Investigation.

301.8 PAYMENT

No separate payment for the work under this section will be made. Payment for the work under this section shall be included with the Asphalt Pavement Section in Section 321 of these specifications.

SECTION 317 – ASPHALT MILLING

317.2 CONSTRUCTION REQUIREMENTS

(Revise the second paragraph to read)

The milling cut depth shall be the depth indicated on the Plans plus or minus 1/8 inch. Milling adjacent to curb and gutter shall be to a depth of 2" below the lip of the gutter. If the existing pavement adjacent to the curb and gutter is higher than the lip of gutter, this may result in milling more than the nominal 2" milling depth. The milling machine shall have electronic grade controls. Contractor shall remove the milled material and sweep the roadway clean with a power pick-up broom to the satisfaction of the Engineer.

(Revise the fifth paragraph to read)

Prior to milling, the Contractor shall be responsible for verifying that the existing asphalt is at least 4" thick at 25' stations along the length of the mill and overlay section. The Contractor shall use a method approved by the Engineer. The Contractor shall immediately notify the Engineer when:

- The existing pavement thickness is less than 4".
- Breaking of the underlying material occurs during milling.
- Delamination of underlying material occurs during milling.

SECTION 321 – PLACEMENT AND CONSTRUCTION OF ASPHALT CONCRETE PAVEMENT

321.3 WEATHER AND MOISTURE CONDITIONS:

(Revised to read)

Asphalt concrete shall be placed only when the surface is dry, and when the ambient temperature in the shade is 40 degrees F and rising, or above 50 degrees F if falling. No asphalt concrete shall be placed when the weather is foggy, or rainy or when the base on which the material is placed is unstable, is in a wet condition (more than optimum) or in a frozen condition. Asphalt concrete shall be placed only when the Engineer determines that weather conditions are suitable.

The determination by the Engineer of unsuitable weather conditions for paving operations shall not be the cause for extension of the contract time. The Contractor must show that such weather conditions were not reasonably anticipated. Any request for an extension of the contract time shall be in accordance with Section 108.7 of the MAG Standard Specifications and Section 108.7 of these Special Provisions.

321.7 TRANSPORTATION

(Revise MAG to include the following)

Sufficient trucks shall be available to enable continuous paving. Failure to provide a sufficient number of trucks may be considered a failure of the Contractor's responsibilities under Section 108.6 of the MAG Standards Specifications.

321.8.2 JOINTS

(Revised the third sentence of the first paragraph to read)

The surface in the area of the joint shall not deviate more than ¼ inch from a 10-foot straightedge, when tested with the straightedge placed across the joint, parallel to the centerline.

321.8.4 COMPACTION: ASPHALT BASE COURSE AND SURFACE COURSE

(Revise the fourth paragraph to read)

Achieving the required compaction is the responsibility of the Contractor. The Contractor shall determine the equipment pattern of rolling that will provide the proper compaction, at his/her expense. The Engineer will determine the acceptability of the pavement compaction in accordance with Section 321.10 of the MAG Standard Specifications.

321.8.5 SMOOTHNESS

(Revise MAG to read)

The completed surfacing shall be thoroughly compacted, smooth, true to grade and cross-section, of uniform texture and appearance, and free of ruts, humps, roller marks, depressions or irregularities. An acceptable surface shall not vary more than one-fourth (1/4) inch from the lower edge of a 10-foot straightedge when the straightedge is placed parallel to the centerline of the roadway.

321.8.6 ASPHALT CONCRETE OVERLAY:

(Revise Subsection (b) of the third paragraph to read)

(b) Before placing asphalt concrete overlay, milling shall be done as shown on the plans or specified in the special provisions and shall be in accordance with Section 317. After completion of the asphalt milling, the Contractor and the Engineer shall inspect the milled pavement surface to determine the extent of existing pavement cracks and repairs.

SECTION 337 – CRACK SEALING

337.1 DESCRIPTION

(Revise MAG to read)

Crack sealing shall consist of blowing out loose material and sealing all cracks wider than 1/4 inch and narrower than 1-3/4" with an approved crack sealant.

337.2 MATERIALS

(Revise MAG to include the following)

The crack sealant shall be composed of asphalt, reclaimed and or virgin synthetic rubber and polymer modifiers. The material shall be approved by the Engineer prior to the notice to proceed and shall meet the following requirements:

TEST	METHOD	REQUIREMENT
Softening Point	ASTM D-36	200° F Minimum
Cone Penetration @ 77° F	ASTM D-3407	30 Minimum
Resilience @ 77° F	ASTM D-3407	40% Minimum
Flow	ASTM D-3407	3 mm Maximum
Safe Heating Temperature		410° F Minimum

Crack sealant shall be applied in accordance with manufacturer's recommendation.

337.8 MEASUREMENT:
(Revise MAG to include the following)

No separate measurement or payment will be made for crack sealing. The cost of crack sealing shall be considered incidental and included in the unit price bid for milling and asphalt overlay.

SECTION 340 – CONCRETE CURB, GUTTER, SIDEWALK, SIDEWALK RAMPS, DRIVEWAY AND ALLEY ENTRANCE

340.1 DESCRIPTION
(Revise MAG to read)

The various types of concrete curb, gutter, sidewalk and driveways shall be constructed to the dimensions indicated on the plans and MAG Standard Details with all applicable modifications as per the City of Flagstaff Standard Details as referenced on the plans.

All curb and gutter, sidewalk and driveways shall be constructed on a minimum 3 inches of aggregate base course (ABC). The ABC shall be compacted to 95% relative density.

Unless otherwise noted for removal and replacement, the Contractor shall protect all curb and gutter that is to remain in place. Removals outside the plan limits not approved by the Owner shall be replaced at the Contractor's expense.

The Contractor shall take extra precaution to protect all freshly poured concrete from vandalism. The Contractor shall coordinate placement of all new concrete with businesses a minimum of 48 hours in advance of the work. Night work, admixtures to accelerate hydration and setting of concrete and protective coverings should be considered by the Contractor to ensure that the finished concrete is free from any defects. Refer to MAG Spec. Section 107.10.

340.2 MATERIALS
(Revise the first paragraph to read)

Concrete shall be Class A, containing 5 to 7 percent air entrainment and conform to the applicable requirements of Section 725.

340.5 MEASUREMENT
(Revise to include the following)

No separate measurement or payment will be made for the saw cutting necessary for removal of pavement, curb, or sidewalk. No separate measurement or payment will be made for 3" ABC under curbs, sidewalks or sidewalk ramps. The cost of saw cutting and ABC is to be included in the related work items shown on the Bid Schedule.

SECTION 350 - REMOVAL OF EXISTING IMPROVEMENTS

350.2 CONSTRUCTION METHODS
(Revise to include the following)

The work under this section shall be in accordance with Section 350 of the MAG Standard Specifications, Section 201 of the MAG Standard Specifications and as modified herein. The Contractor has the option to mill or sawcut the existing asphalt for the water or gas line trench cut.

Sidewalks and curbs shall be removed to the nearest joint.

All excess materials removed shall become the property of the Contractor unless designated otherwise and shall be disposed of off the project site at no additional cost to the Owner.

SECTION 390 - PAVEMENT MARKINGS

390.1 PAYMENT

(Revise MAG to include new section)

Payment for pavement markings will be a lump sum price.

PART 600 – WATER, SEWER, STORM DRAIN AND IRRIGATION

SECTION 601 – TRENCH EXCAVATION, BACKFILLING AND COMPACTION

601.2.3 TRENCH GRADE

(Revise the first paragraph to read)

Alignment and elevation stakes shall be furnished by the Contractor at set intervals and agreed upon offsets. On water mains, cut stakes will be furnished only when deemed necessary by the Engineer. In all cases where elevation stakes are furnished, the Contractor shall also furnish the Engineer with cut sheets.

601.4.2 BEDDING

(Revise the first paragraph to read)

Bedding shall consist of granular material containing no pieces larger than $\frac{3}{4}$ inch and free of broken concrete, broken pavement, wood or other deleterious material. Aggregate base course in accordance with Section 702 of the MAG Standard Specifications shall also be acceptable as bedding material. Volcanic cinders in any form are not acceptable as bedding or backfill material for water lines.

SECTION 610 – WATER LINE CONSTRUCTION

610.3 MATERIALS

(Revise Paragraph (A) to read)

1. Water lines shall be constructed in conformance with Section 9-06-010, Paragraph 2, of the City of Flagstaff Engineering Design and Construction Standards and Specifications, 2009 edition. Polyvinyl chloride (PVC) plastic pipe for water lines shall conform to the requirements of Section 9-06-050 of the same publication.

PART 700 – MATERIALS

SECTION 760 – COATING CORRUGATED METAL PIPE AND ARCHES

760.2 MATERIALS

(Revise MAG to include the following)

Corrugated metal products covered by this section shall be Aluminized steel (type 2), 12 gauge, 5"x1" helically corrugated conforming to the requirements of AASHTO M-36.

SECTION 772 – CHAIN LINK FENCE

772.3 CHAIN LINK FABRIC

(Revise MAG to include the following)

The chain link fabric shall be twisted selvage top and bottom, incorporate factory inserted, integral slats in gray and as manufactured by Privacylink or approved equal.

SECTION 775 – BRICK AND CONCRETE MASONRY UNITS (BLOCKS)

775.2 CONCRETE MASONRY UNITS

(Revise MAG to include the following)

All visible surfaces of the retaining walls that are exposed to the view of the traveling public shall be split face block, color to be determined.