

AGENDA



4:30 P.M.

CITY COUNCIL MEETING

TUESDAY, SEPTEMBER 24, 2019

NOTES:

- Public Forum: Comments are generally limited to **3 minutes**.
- Consent Items: Items listed under Consent Items have been distributed to Council Members in advance for study and will be enacted by one motion. Any member of the Council, staff or the public may remove an item from the Consent Items for discussion. Items removed from the Consent Items may be acted upon before proceeding to the next agenda item.
- Meeting room is wheelchair accessible. American Disabilities Act (ADA) accommodations are available upon request. Please phone 928-282-3113 at least two (2) business days in advance.
- City Council Meeting Agenda Packets are available on the City's website at:

www.SedonaAZ.gov

GUIDELINES FOR PUBLIC COMMENT

PURPOSE:

- To allow the public to provide input to the City Council on a particular subject scheduled on the agenda.
- This is not a question/answer session.

PROCEDURES:

- Fill out a "Comment Card" and deliver it to the City Clerk.
- When recognized, use the podium/microphone.
- State your:
 1. Name and
 2. City of Residence
- Limit comments to **3 MINUTES**.
- Submit written comments to the City Clerk.

1. CALL TO ORDER/PLEDGE OF ALLEGIANCE/MOMENT OF SILENCE/ROLL CALL

2. CITY'S VISION

3. CONSENT ITEMS - APPROVE

LINK TO DOCUMENT =

- Minutes - September 10, 2019 City Council Special Meeting - Executive Session.
- Minutes - September 10, 2019 City Council Regular Meeting.
- Minutes - September 11, 2019 City Council Special Meeting.
- AB 2526 Approval of a Construction Contract for the Wastewater Reclamation Plant Grit Classifier Replacement Project with Western Environmental Equipment Co. in an amount not-to-exceed \$124,415.
- AB 2527 Approval for purchase of a CCTV Inspection Vehicle for the Wastewater Department from Elxsi dba CUES in the approximate amount of \$252,525.38.
- AB 2529 Approval of Re-Plat of Park Place 2nd Amended Final Plat at 3865 W State Route 89A. The property is zoned multi-family residential (RM-2) and is located south of W State Route 89A between Upper Red Rock Loop Road and Foothills South Drive. APN: 800-98-006Z, 408-11-455 through 408-11-531. Applicant: Miramonte Arizona, LLC Case Number: PZ18-00007 (SUB)
- AB 2530 Approval of a Professional Services Contract for design services for the SR 179 Pedestrian Crossing at Tlaquepaque Project with WSP USA Inc. in an amount not-to-exceed \$297,099.

4. APPOINTMENTS - None.

5. SUMMARY OF CURRENT EVENTS BY MAYOR/COUNCILORS/CITY MANAGER

6. PUBLIC FORUM

(This is the time for the public to comment on matters not listed on the agenda. The City Council may not discuss items that are not specifically identified on the agenda. Therefore, pursuant to A.R.S. § 38-431.01(H), action taken as a result of public comment will be limited to directing staff to study the matter, responding to any criticism, or scheduling the matter for further consideration and decision at a later date.)

7. PROCLAMATIONS, RECOGNITIONS & AWARDS

- Recognition of the promotion of police officers Nate Dorfman and Chris Stevens to the rank of Sergeant.

8. REGULAR BUSINESS

- AB 2493 **Public hearing/discussion/possible action** regarding a Resolution and Ordinance adopting building code updates and amendments including the 2018 International Building, Residential, Existing Building, Energy Conservation, Plumbing, Mechanical, Fuel Gas, and Swimming Pool and Spa Codes, and the 2017 National Electrical Code.
- Reports/discussion** regarding Council assignments.
- Discussion/possible action** regarding future meeting/agenda items.

**CITY COUNCIL CHAMBERS
102 ROADRUNNER DRIVE, SEDONA, AZ**

The mission of the City of Sedona government is to provide exemplary municipal services that are consistent with our values, history, culture and unique beauty.



Page 2, City Council Meeting Agenda Continued

9. EXECUTIVE SESSION

If an Executive Session is necessary, it will be held in the Vultee Conference Room at 106 Roadrunner Drive. Upon a public majority vote of the members constituting a quorum, the Council may hold an Executive Session that is not open to the public for the following purposes:

- a. To consult with legal counsel for advice on matters listed on this agenda per A.R.S. § 38-431.03(A)(3).
- b. Return to open session. Discussion/possible action on executive session items.

10. ADJOURNMENT

Posted: _____

By: _____

Susan L. Irvine, CMC
City Clerk

Note: Pursuant to A.R.S. § 38-431.02 notice is hereby given to the members of the City Council and to the general public that the Council will hold the above open meeting. Members of the City Council will attend either in person or by telephone, video, or internet communications. The Council may vote to go into executive session on any agenda item, pursuant to A.R.S. § 38-431.03(A)(3) and (4) for discussion and consultation for legal advice with the City Attorney. Because various other commissions, committees and/or boards may speak at Council meetings, notice is also given that four or more members of these other City commissions, boards, or committees may be in attendance.

A copy of the packet with materials relating to the agenda items is typically available for review by the public in the Clerk's office after 1:00 p.m. the Thursday prior to the Council meeting and on the City's website at www.SedonaAZ.gov. The Council Chambers is accessible to people with disabilities, in compliance with the Federal 504 and ADA laws. Those with needs for special typeface print, may request these at the Clerk's Office. All requests should be made **forty-eight hours** prior to the meeting.

CITY COUNCIL CHAMBERS
102 ROADRUNNER DRIVE, SEDONA, AZ

The mission of the City of Sedona government is to provide exemplary municipal services that are consistent with our values, history, culture and unique beauty.

Action Minutes
Special City Council Meeting - Executive Session
Vultee Conference Room, Sedona City Hall,
106 Roadrunner Drive, Sedona, Arizona
Tuesday, September 10, 2019, 3:00 p.m.

1. Call to Order

Mayor Moriarty called the meeting to order at 3:00 p.m.

2. Roll Call

Council Present: Mayor Sandy Moriarty, Vice Mayor John Martinez, Councilor Bill Chisholm, Councilor John Currivan, Councilor Janice Hudson, Councilor Scott Jablow. Councilor Jessica Williamson was absent and excused.

Staff in attendance: City Attorney Robert Pickels, Jr., City Clerk Susan Irvine.

3. Executive Session

Motion: Councilor Chisholm moved to enter into Executive Session at 3:00 p.m. Seconded by Vice Mayor Martinez. Vote: Motion carried unanimously with six (6) in favor (Moriarty, Martinez, Chisholm, Currivan, Hudson, and Jablow) and zero (0) opposed.

Upon a public majority vote of the members constituting a quorum, the Council may hold an Executive Session that is not open to the public for the following purposes:

- a. **Discussion and consideration regarding the employment, assignment, and appointment of a new City Magistrate Judge. This matter is brought in executive session pursuant to A.R.S. § 38-431.03(A)(1).**
- b. **Return to open session. Discussion/possible action on executive session items.**

Reconvened in open session at 3:48 p.m.

4. Adjournment

Mayor Moriarty adjourned the meeting at 3:48 p.m.

I certify that the above are the true and correct actions of the Special City Council Meeting held on September 10, 2019.

Susan L. Irvine, CMC, City Clerk

Date

**Action Minutes
Regular City Council Meeting
City Council Chambers, Sedona City Hall,
102 Roadrunner Drive, Sedona, Arizona
Tuesday, September 10, 2019, 4:30 p.m.**

1. Call to Order/Pledge of Allegiance/Moment of Silence/Roll Call

Mayor Moriarty called the meeting to order at 4:30 p.m.

Council Present: Mayor Sandy Moriarty, Vice Mayor John Martinez, Councilor Bill Chisholm, Councilor John Currivan, Councilor Janice Hudson, Councilor Scott Jablow. Councilor Jessica Williamson was absent and excused.

Staff Present: City Manager Justin Clifton, Assistant City Manager/Community Development Director Karen Osburn, City Attorney Robert Pickels, Jr., Assistant City Attorney Shelley Cutts, Financial Services Director Cherie Wright, Director of Public Works/City Engineer Andy Dickey, Associate Engineer James Crowley, Associate Planner Matt Kessler, Economic Development Director Molly Spangler, Citizen Engagement Coordinator Lauren Browne, Arts & Culture Coordinator Nancy Lattanzi, City Clerk Susan Irvine.

2. City's Vision/Moment of Art

Mayor Moriarty read the City's Vision.

Nancy Lattanzi advised that the International Day of Peace is September 21st, and this year's theme is "Climate Action for Peace" which draws attention to the importance of combatting climate change to protect and promote peace throughout the world. She then showed a video of famous quotes about peace.

3. Consent Items

- a. **Minutes – August 13, 2019 City Council Regular Meeting.**
- b. **Minutes – August 14, 2019 City Council Special Meeting.**
- c. **Approval of Proclamation, Constitution Week, September 17-23, 2019.**
- d. **AB 2511 Approval of a construction contract for the Police Department Shooting Range Improvements Project Phase II with Caruso Construction, Inc. in the approximate amount of \$174,220.**
- e. **AB 2520 Approval of: 1) a professional services contract for design of the Shelby Drive Roadway Improvements Project with Kimley-Horn, Inc., in the approximate amount of \$133,615, and 2) a Resolution authorizing the execution of a Grant Agreement between the City of Sedona and the State of Arizona contributing \$500,000 in funds to be used for the Shelby Drive Roadway Improvements Project.**
- f. **AB 2522 Approval of a recommendation regarding an application for a Series 12 Restaurant Liquor License for The Vault Uptown located at 361 Forest Road, Ste E, Sedona, AZ (File #71619).**
- g. **AB 2523 Approval of a Final Plat for Hillside Vista Estates, to allow for a thirty (30) unit subdivision at 125 Bristlecone Pines Road. The property is zoned single-family residential (RS-35) and is located west of Bristlecone Pines Road, north of Navoti Drive, and south of Bobwhite Circle. APN: 408-**

Sedona City Council
Regular Meeting
Tuesday, September 10, 2019
4:30 p.m.

11178D. Applicant: Hoskin Ryan Consultants (Scott Lorentzen) Case Number: PZ18-00003 (SUB).

- h. **AB 2525 Approval of a Resolution authorizing the Mayor to sign a petition requesting the establishment of the Oak Creek Domestic Water Improvement District of Yavapai County, Arizona.**

Item 3f was pulled at the request of a member of the public, Tom Gilomen.

Motion: Vice Mayor Martinez moved to approve consent items 3a, 3b, 3c, 3d, 3e, 3g, and 3h. Seconded by Councilor Jablow. Vote: Motion carried unanimously with six (6) in favor (Moriarty, Martinez, Chisholm, Currivan, Hudson, and Jablow) and zero (0) opposed.

Pulled Consent Item:

3f - AB 2522 Approval of a recommendation regarding an application for a Series 12 Restaurant Liquor License for The Vault Uptown located at 361 Forest Road, Ste E, Sedona, AZ (File #71619).

Opened to the public at 4:44 p.m.

The following spoke regarding this item: Tom Gilomen, Sedona.

Brought back to Council at 4:47 p.m.

Questions and comments from Council. Questions answered by Justin Clifton, Susan Irvine, and Robert Pickels, Jr.

Motion: Vice Mayor Martinez moved to recommend approval of a new Series 12 Restaurant Liquor License for The Vault Uptown located at 361 Forest Road, Ste E, Sedona, AZ (File #71619). Seconded by Councilor Hudson. Vote: Motion carried unanimously with six (6) in favor (Moriarty, Martinez, Chisholm, Currivan, Hudson, and Jablow) and zero (0) opposed.

4. Appointments – None.

5. Summary of Current Events by Mayor/Councilors/City Manager

Councilor Jablow invited everyone to attend the 9/11 Remembrance Ceremony on Wednesday at 8:45 a.m. at Sedona Fire Station 6. Councilor Chisholm announced that flags will be at half staff tomorrow to honor victims of 9/11, and Hope House is waiting to hear from HUD regarding a pending application and are still working on their shelter. Vice Mayor Martinez advised that the Uptown Rangers have recently worked on the Botanical Park, Posse Grounds Trails, Sunset Park and Posse Grounds Park with City staff to assess and complete maintenance needs. Mayor Moriarty stated she attended an event at the Library today to celebrate stewardship of our environment.

6. Public Forum

Michael Johnson, Sedona, spoke about tiny homes in Sedona and encouraged the Council to deny these so that they could not be turned into short-term rentals.

Anthony Priore, Sedona, asked that the City consider opening the pool mid-week for a few hours during the day.

7. Proclamations, Recognitions, and Awards

Sedona City Council
Regular Meeting
Tuesday, September 10, 2019
4:30 p.m.

- a. Presentation of Proclamation, Constitution Week, September 17-23, 2019.

Mayor Moriarty read the Proclamation and presented it to Carol LaPorte. Ms. LaPorte thanked the City Council for their recognition and advised that there will be a program at the Library on September 21st regarding the Constitution.

8. Regular Business

- a. **AB 2519 Discussion/possible action regarding the award of a professional services contract for design of the Posse Ground and Soldiers Pass Road Trail and Parking Improvements with Hoskin Ryan Consultants, Inc. in the approximate amount of \$73,000.**

Presentation by Andy Dickey, Justin Clifton, and James Crowley.

Opened to the public at 5:58 p.m.

The following spoke regarding this item: Marty Glimsky, Sedona, Craig Sigler, Sedona, Madelyn Clair, Sedona, Irwin Sheer, Sedona, Danny Carter, Sedona, and Susan Carter, Sedona.

Brought back to Council at 6:16 p.m.

Further questions and comments from Council.

Motion: Vice Mayor Martinez moved to approve award of a professional services contract for Posse Ground and Soldiers Pass Road Trail and Parking Improvements to Hoskin Ryan Consultants, Inc. in the amount of \$73,000, subject to approval of a written contract by the City Attorney's Office. Seconded by Councilor Chisholm. Vote: Motion carried unanimously with six (6) in favor (Moriarty, Martinez, Chisholm, Currivan, Hudson, and Jablow) and zero (0) opposed.

Break at 6:32 p.m. Reconvened at 6:50 p.m.

- b. **AB 2524 Discussion/possible direction regarding the Street Performance Program and the regulation of street vendors, buskers, and other activities occurring in public spaces.**

Presentation by Justin Clifton, Shelley Cutts, and Robert Pickels, Jr.

Questions from Council.

Opened to the public at 7:53 p.m.

The following spoke regarding this item: John Davis, Sedona, John Wabeke, Sedona, Bruce Bloomquist, Sedona, Erroll Foldes, Sedona, Alex Thor, Sedona, Annette Foldes, Sedona, Jay Davis, Sedona, John Duff, Sedona, and Sean Chartier, Sedona.

Brought back to Council at 8:18 p.m.

Further questions and comments from Council.

By majority consensus, Council directed staff to enforce transactions regarding business licenses (money for goods); research state rules and regulations regarding display of wildlife and the City's ability to enforce them; gather more data and evidence of activities that negatively impact public health and safety; and

examine time, place, and manner regulations that address identified public health and safety concerns.

c. Reports/discussion on Council assignments

Councilor Jablow started that Airport Day will take place on October 5th. He advised that the Humane Society adoptions are up, volunteer hours have increased, and they are hosting a Pet Lover's Gala at Enchantment Resort on September 21st. Councilor Chisholm stated that the NACOG Head Start programs are ramping up for their 5-year plans, and there is room for more students in Sedona.

d. Discussion/possible action regarding future meeting/agenda items.

Mayor Moriarty advised that there is a meeting tomorrow at 3:00 p.m. Susan Irvine inquired about Council conducting Magistrate Judge interviews at 1:00 p.m. on September 25th, and Council agreed that this would be acceptable. Susan also asked about a City Council retreat, and it was decided that it would be held on January 7 or 8, 2020.

9. Executive Session

Upon a public majority vote of the members constituting a quorum, the Council may hold an Executive Session that is not open to the public for the following purposes:

- a. To consult with legal counsel for advice on matters listed on this agenda per A.R.S. § 38-431.03(A)(3).**
- b. Return to open session. Discussion/possible action on executive session items.**

No Executive Session was held.

10. Adjournment

Mayor Moriarty adjourned the meeting at 8:54 p.m. without objection.

I certify that the above are the true and correct actions of the Regular City Council Meeting held on September 10, 2019.

Susan L. Irvine, CMC, City Clerk

Date

**Action Minutes
Special City Council Meeting
City Council Chambers, Sedona City Hall,
102 Roadrunner Drive, Sedona, Arizona
Wednesday, September 11, 2019, 3:00 p.m.**

1. Call to Order/Pledge of Allegiance/Moment of Silence

Mayor Moriarty called the meeting to order at 3:00 p.m.

2. Roll Call

Roll Call: Mayor Sandy Moriarty, Vice Mayor John Martinez, Councilor Bill Chisholm, Councilor John Currivan, Councilor Janice Hudson, Councilor Scott Jablow. Councilor Jessica Williamson was absent and excused.

Staff Present: City Manager Justin Clifton, Assistant City Manager/Community Development Director Karen Osburn, City Attorney Robert Pickels, Jr., Assistant City Attorney Shelley Cutts, Communications Manager Marty Macurak, Deputy City Clerk Cherise Fullbright, City Clerk Susan Irvine.

3. Special Business

- a. **AB 2521 Discussion/possible direction regarding an overview of citizen communication activities and approaches, an assessment of the function's gains and gaps 2017 to present, and suggestions for possible additional improvements or new initiatives.**

Presentation by Justin Clifton and Marty Macurak.

Questions and comments from Council.

By majority consensus, Council agreed that:

1. **widespread misinformation should be addressed with FAQ's and/or a webpage designed to provide facts;**
 2. **hot button issues should be explained in a timely manner;**
 3. **outreach to community groups with Councilors and City staff where the intent is to listen and/or provide information should be expanded;**
 4. **opportunities to tell the good stories around projects and services that provide community benefits and more ways to convey that information should be pursued;**
 5. **branding and consistency needs improvement; and**
 6. **mass communications efforts should be increased.**
4. **Discussion/possible action regarding future meetings/agenda items - None.**
5. **Executive Session**

Upon a public majority vote of the members constituting a quorum, the Council may hold an Executive Session that is not open to the public for the following purposes:

- a. **To consult with legal counsel for advice on matters listed on this agenda per A.R.S. § 38-431.03(A)(3).**
- b. **Return to open session. Discussion/possible action on executive session items.**

No Executive Session was held.

6. Adjournment

Mayor Moriarty adjourned the meeting at 5:56 p.m. without objection.

I certify that the above are the true and correct actions of the Special City Council Meeting held on September 11, 2019.

Susan L. Irvine, CMC, City Clerk

Date



**CITY COUNCIL
AGENDA BILL**

**AB 2526
September 24, 2019
Consent Items**

Agenda Item: 3d
Proposed Action & Subject: Approval of a Construction Contract for the Wastewater Reclamation Plant Grit Classifier Replacement Project with Western Environmental Equipment Co. in an amount not-to-exceed \$124,415.

| | |
|-------------------------------|--------------------------|
| Department | Wastewater |
| Time to Present | N/A |
| Total Time for Item | |
| Other Council Meetings | N/A |
| Exhibits | A. Construction Contract |

| | | | |
|-------------------------------|--|-----------------------------|--|
| City Attorney Approval | 9/16/2019 SDC | Expenditure Required | \$ 124,415 |
| City Manager's Recommendation | Approve a Construction Contract with Western Environmental Equipment Co. | Amount Budgeted | \$ 150,000 |
| | | Account No. (Description) | 59-5320-89-6802 (Placeholder for WW Grit Classifier Replacement) |
| | | Finance Approval | <input checked="" type="checkbox"/> |

SUMMARY STATEMENT

Staff is requesting City Council approval of a construction contract in the amount of \$124,415 for the Wastewater Reclamation Plant (WWRP) Grit Classifier Replacement Project with Western Environmental Equipment Co. The project will replace the existing grit classifier with a new grit classifier.

Background: The WWRP headworks includes the barscreen equipment and the grit classifier, both of which aid in the removal of foreign material from the waste stream prior to biological treatment of the waste. The grit classifier separates and removes material primarily consisting of rocks, gravel, and sand. Grit removal is important to reduce wear on downstream pumps and mechanical equipment, as well as keeping solids handling and disposal to a minimum.

The current grit classifier was installed in 1999. In 2011, the drive, screw coupling, and motor shaft were replaced, and the tub was refurbished and patched. That work cost \$24,000. The original equipment is now 20 years old (life expectancy is 15-20 years). In recent months, the grit classifier has shown new signs of wear and inefficiency. Wastewater staff contacted the manufacturer, Smith and Loveless, Inc. (SCHLOSS), to evaluate the extent of repairs needed to bring the grit classifier back to good working condition. At that time, the manufacturer

recommended that a complete replacement of the grit classifier would be more cost-efficient and a better long-term solution over making all the necessary repairs. Given the age of the equipment and the history refurbishing certain parts, staff agrees that a full replacement is the most cost-effective approach.

SCHLOSS is an approved sole source equipment manufacturer for the only products that are compatible with existing pumps and piping at the WWRP grit removal. The contract presented for approval is with Western Environmental Equipment Co. (WEECI), who is the regional vendor for SCHLOSS. Installing the same equipment, made by the same manufacturer, avoids potential costly modifications to the concrete structure surrounding the equipment, ensures that existing pumps that are part of the grit removal system will be compatible to the grit classifier equipment, and provides for seamless installation; resulting in an overall lower cost as opposed to opening up the contract to other manufacturers.

WEECI will sub-contract the removal of existing equipment and installation of the new equipment to a contractor frequently used by WEECI for installation of equipment. The grit classifier is specially manufactured with each order; therefore, a lead time of 22-26 weeks is anticipated before construction can begin. Approval of the construction contract now will allow the project to be complete in fiscal year 2020.

Community Plan Consistent: Yes - No - Not Applicable

Board/Commission Recommendation: Applicable - Not Applicable

Alternative(s): Council could elect to not approve this construction contract. Doing so would result in the need for costly repairs to the existing grit classifier, continued reduced efficiency of the equipment, and risk of equipment failure.

MOTION

I move to: approve award of a construction contract with Western Environmental Equipment Co. for the Wastewater Reclamation Plant Grit Classifier Replacement Project in an amount not-to-exceed \$124,415, subject to the approval of the written contract by the City Attorney's Office.

CONSTRUCTION CONTRACT

THIS CONTRACT, made and entered into this ____ day of _____, 2019 by and between the City of Sedona, Arizona, hereinafter called the "Owner", and **Western Environmental Equipment Co.** , hereinafter called the "Contractor."

WITNESSETH:

WHEREAS, the City has caused Contract Documents to be prepared for the construction of the **WWRP Grit Classifier Replacement Project (the "Project")**, City of Sedona, Arizona, as described therein; and

WHEREAS, the Contractor has offered to perform the proposed work in accordance with the terms of the Contract; and

WHEREAS, the Contractor, as will appear by reference to the minutes of the proceedings of the City Council was duly awarded the work.

NOW, THEREFORE, the parties hereto hereby stipulate, covenant and agree as follows:

1. The Contractor promises and agrees to and with the City that it shall perform everything required to be performed and shall provide and furnish all the labor, materials, necessary tools, expendable equipment, and all utility and transportation services required to perform and complete in a workmanlike manner all of the work required in connection with construction of the Project all in strict accordance with the Specifications and Drawings, including any and all Addenda, and in strict compliance with the Contractor's Proposal and all other Contract Documents, which are a part of the Contract; and the Contractor shall do everything required by this Contract and the other documents constituting a part thereof.
2. The Contractor agrees to perform all of the work described above in accordance with the Contract Documents and comply with the terms therein for the initial estimated Contract price of **\$124,415.00**, subject to increase or decrease in accordance with the Contract Documents, and the Bid Schedule set forth therein; and the City agrees to pay the Contract Prices in accordance with the Bid Schedule for the performance of the work described herein in accordance with the Contract Documents.
3. The Contractor and the City agree that the terms, conditions, and covenants of the Contract are set forth in the Contract Documents and the Plans and Technical Specifications, and the Drawings numbered 1 through 29, all defined as the Contract Documents, and by this reference made a part hereof as if fully set forth herein.
4. The Contractor and the City agree that each will be bound by all terms and conditions of all of the Plans and Technical Specifications, and Contract Documents, as if the same were fully set forth herein, and hereby incorporate all of the foregoing into this Agreement.
5. The Contractor shall abide by all the laws of the United States of America, State of Arizona, Coconino/Yavapai Counties, and the City of Sedona, including a requirement that Contractor obtain an annual Sedona Business License for every year that they do business with Sedona

or within the City limits.

6. The Contractor shall carry Workers' Compensation Insurance and require all Subcontractors to carry Workers' Compensation Insurance as required by the Law of the State of Arizona, and all other insurance as set forth in the General Conditions.
7. Contractor, its agents, employees, and subcontractors, shall not discriminate in any employment policy or practice. "Discrimination" means to exclude individuals from an opportunity or participation in any activity or to accord different or unequal treatment in the context of a similar situation to similarly situated individuals because of race, color, gender, gender identity, sexual orientation, religion, national origin or ancestry, marital status, familial status, age, disability, or veteran status. (Ordinance 2015-10 (2015)).
8. Work under this Contract shall commence on the date specified in the written Notice to Proceed from the City to the Contractor. Upon receipt of said Notice, the Contractor shall diligently and continuously prosecute and complete all work under this Contract within the time specified on page A-2.
9. The Contract Document consist of the following component parts, all of which are a part of this Contract whether herein set out verbatim, or attached hereto:

Advertisement for Bids
Information for and Instructions to Bidders
Bid Proposal and Bid Guaranty Bond
Contract (this document)
Change Orders
Addenda
Performance Bond, Labor and Material Payment Bond
Special Conditions
General Conditions
Technical Specifications
Notice of Award
Notice to Proceed
Plans and Drawings
Design Reports
Standard Specifications
Insurance Certificates
Participation in Boycott of Israel

The above named 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 describe and provide for a complete work. In case of discrepancy, the order of precedence is as follows:

1. Change Orders
2. Contract (this document), including addenda
3. Payment and Performance Bonds

4. Advertisement for Bids
5. Information for and Instructions to Bidders
6. Notice of Award
7. Notice to Proceed
8. Special Conditions
9. Bid Proposal
10. Technical Specifications
11. Plans and Drawings
12. General Conditions
13. Bid Guaranty Bond
14. Standard Specifications

In the event there is a conflict between any of the above listed documents, the provision of the document with the lower numerical value shall govern those documents with a higher numerical value. Within a category, the last in time is first in precedence.

The Contractor shall not take advantage of any apparent error or omission in the Plans or Specifications. In the event the Contractor discovers such an error or omission, he shall immediately notify the Owner. The City will then make such corrections and interpretations as may be deemed necessary for fulfilling the intent of the Plans and Specifications.

10. As part of the inducement for City to enter into this Agreement, Contractor makes the following representations:
 - A. Contractor has familiarized himself with the nature and extent of the Contract Documents, work, locality, and with all local conditions and federal, state and local laws, ordinances, rules and regulations that in any manner may affect cost, progress, or performance of the work.
 - B. Contractor has studied carefully all reports of investigations and tests of subsurface and latent physical conditions at the site or those reports that otherwise may affect cost, progress or performance of the work, which were utilized by Design Engineer in the preparation of the Drawings and Specifications and which have been identified in the Contract Documents.
 - C. Contractor has made or caused to be made examinations, investigations and tests, and studies of such reports and related data as he deems necessary for the performance of the work at the Contract Price, within the Contract Time and in accordance with the other terms and conditions of the Contract Documents; and no additional examinations, investigations, tests, reports or similar data are or will be required by Contractor for such purposes.
 - D. Contractor has correlated the results of all such observations, examinations, investigations, tests, reports and data with the terms and conditions of the Contract Documents.
 - E. **Contractor has given the City Engineer written notice of all conflicts, errors or**

discrepancies that he has discovered in the Contract Documents and the written resolution thereof by City Engineer is acceptable to Contractor.

- F. Contractor has attended mandatory pre-bid meetings and walk-throughs.
11. A. No assignment by a party hereto of any rights under or interest in the Contract Documents will be binding on another party hereto without the written consent of the party sought to be bound; and specifically but without limitation, monies that may become due and monies that are due may not be assigned without such consent (except to the extent that the effect of this restriction may be limited by law), and unless specifically stated to the contrary in any written consent to an assignment, no assignment will release or discharge the assignor from any duty or responsibility under the Contract Documents.
- B. City and Contractor each binds itself, its partners, successors, assigns and legal representatives to the other party hereto, and its partners, successors, assigns and legal representatives in respect to all covenants, agreements and obligations contained in the Contract Documents.
- C. Pursuant to Arizona Revised Statutes Section 38-511, the provisions of which are incorporated by reference as if fully set forth herein, all parties are hereby given notice that this Agreement is subject to cancellation by the City if any person significantly involved in initiating, negotiating, securing, drafting, or creating the Contract or Contract Documents on behalf of the City is, at any time while the Contract or Contract Document or any extension thereof is in effect, an employee or agent of any other party to the Contract or Contract Documents in any capacity or a consultant to any other party to the Contract or Contract Documents with respect to the subject matter of the Contract or Contract Documents.
12. During the performance of this Agreement, Contractor may also be under contract with the City for performance of work on other projects. A breach in the performance of any of Contractor's obligations under this Agreement shall constitute a breach of Contractor's obligations under any other agreement with the City and the breach by Contractor under other agreement with the City shall also constitute a breach of Contractor's obligations under this Agreement. The City may offset any amounts owed by Contractor under any such other agreement from any amounts owed to Contractor under this Agreement.
13. The Contract Documents constitute the entire Agreement between the parties.

IN WITNESS WHEREOF, the parties hereto have executed, or caused to be executed by their duly authorized officials, this Agreement which shall be deemed an original on the date first above written.

CITY: City of Sedona, Arizona

BY: _____

NAME: _____

TITLE: _____

(SEAL)

ATTEST:

BY: _____

NAME: _____

CONTRACTOR:

BY: _____

NAME: _____

TITLE: _____

(SEAL)

ATTEST:

BY: _____

NAME: _____

APPROVED AS TO LEGAL FORM:

BY: _____

(City Attorney)

DATE: _____



Western Environmental Equipment Company
 14455 N. 79th Street, Suite A
 Scottsdale, AZ 85260

-Manufacturers Representatives for the Water and Wastewater Industries

Quotation # 6242
 Tuesday, July 02, 2019

Mike Atwater
 City of Sedona WWTP
 7500 W Highway 89A
 Sedona, AZ 86336

| Item | Qty | Description (Part Number) | Unit Price | Ext. Price |
|------|-----|--|------------|--------------|
| 1) | 1 | <p>SMITH & LOVELESS, INC. SCHLOSS Type 10CPT FORCED VORTEX GRIT COLLECTOR SYSTEM suitable for installation in a concrete structure 18' 8" diameter x 12'-1 1/4" deep with a concentric 10'-0" diameter x 5'-8 1/4" deep grit well and bridge. Concrete structure by others.</p> <p>The SMITH & LOVELESS, INC. SCHLOSS grit collector system mechanism shall include a helical gear reducer driven by 1 HP, 3/60/230-460 Volt explosion-proof motor. Air bell around the drive shaft is constructed of carbon steel. Shaft is constructed of carbon steel C1045. 304 stainless steel axial flow impellers, 304 stainless steel grit well cover plates, and accessories, as described herein.</p> <p>SMITH & LOVELESS, INC. SCHLOSS Type 12SW-CL grit classifier/washer with 16.26 degree inclined dewatering screw and fed by one cyclone which is mounted on the top of the classifier. The cyclone shall receive grit slurry rate of about 250 GPM. The grit classifier tank will be constructed from 304 stainless steel trough, 304 stainless steel sectional covers, suitable reinforced and mounted on stainless steel supports. Grit</p> | | \$118,805.00 |

| | | | | |
|----|---|--|--|--------------|
| | | <p>will be removed by 12-inch diameter screw conveyor, made from heavy steel with replaceable abrasion resistant shoes. Motor shall be 0.5 HP, TEFC 3/60/460V.</p> <p>Approximate weight of each screw washer: 2000 lbs.</p> <p>CORROSION PROTECTION:</p> <p>All fabricated carbon steel components shall be commercial blasted and prime coated by the manufacturer with original manufacturer's coating. All motors and gearboxes shall be furnished with the original manufacturer's coating. Final touch-up and finish coating shall be the responsibility of the purchasing contractor.</p> <p>The equipment will be shipped in major pieces as follows:</p> <ul style="list-style-type: none"> · Drive assembly. · Driveshaft. · Propeller blades. · Grit well cover plate. · Grit classifier/washer. · Cyclone. <p>Price includes one day of supervision of initial operation.</p> | | |
| 2) | 1 | Removal of old grit classifier and grit removal system (vortex chamber) and replace with new equipment. Work to be done by Mehall Contracting, LLC. Includes a three person crew and reach fork rental. | | \$5,610.00 |
| | | | | \$124,415.00 |

Delivery: Submittals available 4-6 weeks after receipt of order
Equipment shipment 18 – 20 weeks after receipt of written submittal approval

Terms: Net 30 days

Please make purchase orders out to:

Western Environmental Equipment Co.
14455 N 79th St., Suite A
Scottsdale, AZ 85260

Validity: 30 Days



**CITY COUNCIL
AGENDA BILL**

**AB 2527
September 24, 2019
Consent Items**

Agenda Item: 3e
Proposed Action & Subject: Approval for purchase of a CCTV Inspection Vehicle for the Wastewater Department from Elxsi dba CUES in the approximate amount of \$252,525.38

| | |
|-------------------------------|---------------------------------------|
| Department | Wastewater |
| Time to Present | N/A |
| Total Time for Item | |
| Other Council Meetings | None |
| Exhibits | A. HGACBuy Contract Pricing Worksheet |

| | | | |
|-------------------------------|--|-----------------------------|---|
| City Attorney Approval | 9/16/2019 SDC | Expenditure Required | |
| | | | \$ 252,525.38 |
| City Manager's Recommendation | Approve the purchase of a CCTV system. | Amount Budgeted | |
| | | | \$ 255,000.00 |
| | | Account No. (Description) | 59-6253-56-6840 (Motor Vehicles – One-Time) |
| | | Finance Approval | <input checked="" type="checkbox"/> |

SUMMARY STATEMENT

Staff is requesting City Council approval for purchase of a Closed-Circuit Television (CCTV) Inspection Vehicle from Elxsi dba CUES, under an HGACBuy Contract. HGACBuy is a nationwide, government procurement service which allows the City to procure products and services through contracts awarded by virtue of a public competitive procurement process compliant with state statutes.

Background: The Arizona Department of Environmental Quality (ADEQ) requires that wastewater utilities perform condition assessments of the wastewater collection system once every five (5) years. The condition assessments are typically conducted using CCTV cameras inserted into the sewer pipes through manholes. Wastewater collection operators are able to navigate the remote-controlled CCTV video camera through the pipe, which transmits the video to a monitor located inside the CCTV Inspection Vehicle. The operator then evaluates and records the condition of the pipe using national standards set by the National Association of Sewer Service Companies.

Historically, the City has contracted pipe inspections to a 3rd party, with an average annual cost of \$83,000. Deliverables from the contractor include recorded video, and a report of any defects found. Wastewater staff is then required to review the data delivered and maintain records of

defects throughout the system. Review of the recordings and reports can be time consuming, and in the past, was not always conducted due to lack of resources and time to complete the reviews in the detail required to ensure that repairs are made.

Having proper equipment and a full-time employee, who would be primarily dedicated to executing and overseeing the CCTV inspections, is beneficial to the wastewater department in that sewer defects that require repair or attention can be realized before it becomes a larger problem. Through regular monitoring and evaluation of sewer pipes, we can have a better understanding of the real-time condition of the collection system. Repairing pipe defects while they are small typically results in an overall decrease in future pipe deterioration and avoids costlier future repairs.

The purchase of a CCTV Inspection Vehicle to bring the pipe condition assessment program in-house was presented and approved as a decision package during the Fiscal Year 2020 budget process. The CCTV Inspection Vehicle being proposed for approval includes all equipment needed to complete CCTV video and condition assessment of the City's sewer lines; including, remote-controlled camera, monitors, computers, and software which will interface with the existing ESRI GIS system that the City utilizes for mapping. The total package cost also includes full staff training on using the software and equipment. Upon issuance of a purchase order, delivery of the CCTV Inspection Vehicle will occur in approximately 4-6 months.

Community Plan Consistent: Yes - No - Not Applicable

Purchase of a CCTV Inspection Vehicle will support one of the Six Major Outcomes of the Sedona Community Plan related to Environmental Protection.

Board/Commission Recommendation: Applicable - Not Applicable

Alternative(s): Council could elect to not approve the purchase of a CCTV Inspection Vehicle. Doing so would result in the continued need to perform pipe condition assessments through a contracted 3rd party, as required by ADEQ.

MOTION

I move to: approve purchase of a CCTV Inspection Vehicle from Elxsi dba CUES in the approximate amount of \$252,525.38 utilizing the HGACBuy procurement service.

Exhibit A

| | | | | | | | | |
|---|-----------------------|---|------------------------------------|---|-------------|---|--|----|
| HGACBuy | | CONTRACT PRICING WORKSHEET For Standard Equipment Purchases | | Contract No.: | SCO1-18 | Date Prepared: | 8/2/2019 | |
| This Worksheet is prepared by Contractor and given to End User. If a PO is issued, both documents <u>MUST</u> be faxed to H-GAC @ 713-993-4548. Therefore please type or print legibly. | | | | | | | | |
| Buying Agency: | City of Sedona | Contractor: | Elxsi dba CUES | | | | | |
| Contact Person: | Roxanne Holland | Prepared By: | Robin Guthrie | | | | | |
| Phone: | 928-203-5069 | Phone: | 800-327-7791 ext 224 | | | | | |
| Fax: | | Fax: | | | | | | |
| Email: | RHolland@sedonaaz.gov | Email: | robing@cuesinc.com | | | | | |
| Product Code: | G021B | Description: | Ford Transit TV Inspection Vehicle | | | | | |
| A. Product Item Base Unit Price Per Contractor's H-GAC Contract: | | | | | | | \$142,250.00 | |
| B. Published Options - Itemize below - Attach additional sheet if necessary - Include Option Code in description if applicable (Note: Published Options are options which were submitted and priced in Contractor's bid.) | | | | | | | | |
| Description | | Cost | | Description | | Cost | | |
| CZ300 OZ II camera in lieu of Nite Lite | | \$3,103.00 | | WM312 - Pneumatic tires for Compact Steerable transporter | | \$1,829.00 | | |
| MD380-1 Summit System upgrade | | \$6,313.00 | | WM307-1 6" steel wheels for CPR | | \$1,994.00 | | |
| GX217 24" rear monitor | | \$1,800.00 | | WM308-2 8" steel wheels for CPR | | \$2,112.00 | | |
| MD320 Auto payout feature | | \$3,772.00 | | WM310-2 10" - 15" steel wheels for CPR | | \$2,133.00 | | |
| WM350 Compact Steerable Pipe Ranger | | \$24,075.00 | | GNET ES ESRI Interface | | \$14,490.00 | | |
| GNETBASIC | | \$16,197.00 | | GN507 PACP module | | \$2,450.00 | | |
| CC7000 7000 watt generator in lieu of 5500 watt | | \$2,707.00 | | GN904 Office modules(2) | | \$2,500.00 | | |
| WM330 Electric lift for Compact Steerable Transporter | | \$6,629.00 | | GN538 Office support | | \$700.00 | | |
| MD604/MD603 - wired and wireless controllers | | \$630.00 | | | | | | |
| | | | | | | Subtotal From Additional Sheet(s): | | |
| | | | | | | Subtotal B: | 93434 | |
| C. Unpublished Options - Itemize below - Attach additional sheet if necessary (Note: Unpublished options are items which were not submitted and priced in Contractor's bid.) | | | | | | | | |
| Description | | Cost | | Description | | Cost | | |
| GN510 Main Inspection Module | | \$3,795.00 | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | Subtotal C: | 3795 | |
| Check: Total cost of Unpublished Options (C) cannot exceed 25% of the total of the Base Unit Price plus Published Options (A+B). | | | | | | | For this transaction the percentage is: | 2% |
| D. Total Cost before any other applicable Charges, Trade-Ins, Allowances, Discounts, Etc. (A+B+C) | | | | | | | | |
| Quantity Ordered: | 1 | X Subtotal of A + B + C: | 239479 | = | Subtotal D: | 239479 | | |
| E. Trade-Ins / Special Discounts / Other Allowances / Freight / Installation / Miscellaneous Charges | | | | | | | | |
| Description | | Cost | | Description | | Cost | | |
| Delivery | | 2565 | | 9.85 Sedona, AZ sales tax | | 22,643.38 | | |
| Less summit system discount | | -12162 | | | | | | |
| | | | | | | Subtotal E: | 13046.38 | |
| Delivery Date: | | 90-120 days | | F. Total Purchase Price (D+E): | | 252525.38 | | |

08/02/2019

CITY OF SEDONA HGAC CONTRACT SPECIFICATIONS

1 FORD TRANSIT GAS CARGO VAN 2X4 CHASSIS

- 1 3.5L V6 Gas Engine
- 1 6-Speed Automatic Transmission
- 1 10360 lb. GVWR
- 1 148" Wheel Base
- 1 Cab Air Conditioner
- 1 AM / FM Radio

1 TRANSIT VAN EXTERIOR LIGHTING & CONTROL ROOM - EVOLUTION 3.0 TO INCLUDE:

- 2 Amber LED Strobe Warning Beacons
- 2 Adjustable LED Floodlights Rear of Vehicle Area Illumination
- Control Room Interior:
 - 1 Lonseal Lonplate Flooring
 - 1 Kemlite Wall & Ceiling Covering
 - 1 Bulkhead Wall With Passage Door From Control Room to Equipment Room
 - 1 Tinted Viewing Window in Bulkhead Wall
 - 1 Tinted Viewing Window in Bulkhead Door
 - 1 Above Desk Control Console with Rack Mount for Electronic Equipment
 - 1 Desktop / Work Area
 - 1 LED Light Fixture
 - 2 Electrical Outlet with Dual Receptacles
 - 1 Fire Extinguisher with Bracket, 10BC Rating
 - 1 Operators Chair
 - 1 Breaker Box Storage Area with Locking Positive Latch

1 ROOF TOP AIR CONDITIONER, 13,500 BTU WITH HEAT STRIP

1 STORAGE CABINET UNDER CONTROL ROOM DESKTOP

1 BENCH SEAT

1 TRANSIT VAN EQUIPMENT ROOM INTERIOR - EVOLUTION 3.0 TO INCLUDE:

- 1 Lonseal Lonplate Flooring
- 1 Kemlite Wall & Ceiling Covering
- 1 Electrical Outlet with Dual Receptacles
- 1 LED Light Fixture
- 1 15 Minute Courtesy Timer Located at Rear Door Area for 12V LED Interior Lights

1 10-GALLON WASHDOWN SYSTEM TO INCLUDE:

- 1 10-Gallon Fresh Water Tank
- 1 Electric Water Pump
- 1 Retractable Hose Reel with 25'Water Hose and Nozzle

1 UPPER AND LOWER STORAGE CABINET IN EQUIPMENT ROOM

- 1 Lower Storage Cabinet / Work Top
- 1 Upper Wall Mounted Storage Cabinet

1 ADDITIONAL LIGHTING AND OUTLET

- 1 Light Mounted Above Work Top
- 1 Dual Receptacle Outlet Above Work Top

1 24" REAR FLATSCREEN MONITOR

- 1 FlatScreen Monitor
- 1 Cable Assembly - Video Monitor to Monitor in Control Room
- 1 Monitor Mounting Bracket

1 7000 WATT GAS ONAN GENERATOR

- 1 120 Volt 60 HZ 7000 Watt EFI (Electronic Fuel injection) Commercial Grade Generator
 - 1 Gasoline Powered
 - 1 Electric Start
 - 1 Air Cooled
 - 1 Generator Remote Start/Stop Cable assembly

1 GENERATOR COMPARTMENT

- 1 Generator Storage Compartment
- 1 Commercial Power Supply Receptacle, 25' Cord, and Plug
- 1 Electrical Supply Center with Circuit Breaker Box
- 1 Commercial power and Generator Power Connectors
- 1 Automatic Power Transfer Switch

1 SYSTEM ENGINEERING PANEL, FOR POWER INFORMATION AND GENERATOR FUNCTIONS, RACK MOUNTED, TO INCLUDE:

- 1 Four Function AC Power Meter displaying Critical Power Information including:
 - 1 Voltage
 - 1 Hertz
 - 1 Amperage
 - 1 Active Power (Watts)
- 1 Front panel Selector Switch for two modes of operation:
 - 1 Fixed reading
 - 1 Continuous Auto-cycling
- 1 Generator Battery Meter to Display Starting and Charging Voltage
- 1 Generator Hour Meter
- 1 Generator Remote Start/Stop Control Switch
- 1 On/Off Switch for Emergency Warning beacons (Switch to Illuminate When On)

1 PAN & TILT ZOOM OZ III M/C CAMERA

- 1 Solid State Color Sewer TV Camera
- 1 Pan & Rotate Camera Head, 40:1 Zoom Ratio, 10x Optical Zoom, 4x Digital Zoom
- 1 NTSC Color Standard, 4x Light Integration
- 1 Camera Lighting System for 6" through 72" lines
- 1 Camera Transportation and Storage Case

1 BRASS COMPACT STEERABLE CAMERA TRANSPORTER, WHEELED -60V

- 1 Steerable Unit Designed to Turn 360 Degrees Within Its Own Radius
- 1 Set of Driven Rubber Wheels to Inspect 6" Pipe
- 1 Two (2) Speed Transmission to Maximize Torque in Large Diameter Pipe with:
 - 1 Manual Shifter on Camera Carrier
- 1 Unit Shall Have Forward, Free Wheel, and Power Reverse Capabilities
- 1 All Six (6) Wheel Drive Transporter Assembly to Include:
 - 1 Motor & Enclosed Drive Train
- 1 Tip Up Rear Connector

1 8" RUBBER WHEEL KIT FOR COMPACT TRANSPORTER

- 1 10-15" RUBBER WHEEL KIT FOR COMPACT TRANSPORTER**
- 1 6"-15"PIPE SPACER KIT**
- 1 ELECTRIC CAMERA LIFT FOR COMPACT TRANSPORTER**
- 1 12"-15" PNEUMATIC TIRE KIT FOR COMPACT TRANSPORTER**
- 1 6" STEEL 10/12 GR WHEEL KIT FOR COMPACT TRANSPORTER**
- 1 8" STEEL 10/12 GR WHEEL KIT FOR COMPACT TRANSPORTER**
- 1 10-15" STEEL 10/12 GR WHEEL KIT FOR COMPACT TRANSPORTER**
- 1 1000' CABLE ASSEMBLY, M/C 12PIN METAL**
 - 1 1000' Gold Multi Conductor Kevlar Fiber Armored Combination TV Transmission / Tow Cable
 - 1 .450 Diameter
 - 1 Metal Splice Chamber with Pigtail
 - 1 Cable Strain Relief
- 1 TV REEL ASSEMBLY, MECHANICAL FOOTAGE FOR SUMMIT .450 CABLE W/AUTO PAYOUT**
 - 1 Black Thermoplastic Powder Coated Frame
 - 1 Power Levelwind & Multi Ratio Manual Transmission
 - 1 Automatic Cable Payout System
 - 1 Footage Meter with Local Counter and Remote Counter
 - 1 Transmission Control at Viewing Station
 - 1 Local Reel Mount Electrical and Mechanical Control
 - 1 Sealed Continuous Contact Collector Assembly
 - 1 Removable Drip Pan for Cleaning
- 2 22" (MINIMUM) FLATSCREEN COLOR INDUSTRIAL TV MONITOR NTSC / PAL COLOR STANDARDS**
- 1 PCU ASSEMBLY [RACK MOUNT]**
- 1 CCU ASSEMBLY [RACK MOUNT]**
 - 1 Alpha Numeric Information Display, with Multi Paging and Defect Coding
 - 1 Remote "QWERTY" Keyboard
 - 1 On Screen Footage Display
- 1 TEST CABLE**
- 1 8.7" MINI KEYBOARD**
- 1 BRACKET, LOGITECH CONTROLLER, K2**
- 1 WIRED USB CONTROLLER**
 - 1 Joystick Control for Pan and Tilt Zoom Camera to Include:
 - 1 360 Degree Rotate

- 1 330 Degree Optical Pan
- 1 Joystick Control for All Steering Functions & Forward / Reverse Directions for Transporter
- 1 Camera Lift Control for Optional Electronic Camera Lift
- 1 All Other Controls for Camera to Include:
 - 1 Camera Iris and Focus Override & Zoom
 - 1 Camera Lights & Shutter Control for Light Enhancement
 - 1 Camera Diagnostics & Auto Home
- 1 Cruise Control to Set Speed of the Transporter for Hands Off Operation
- 1 All Reel Controls to Include: Retrieve, Release, and Variable Speed [Excluding Dolly Systems]

1 WIRELESS CONTROLLER

- 1 Joystick Control for Pan and Tilt Zoom Camera to Include:
 - 1 360 Degree Rotate
 - 1 330 Degree Optical Pan
- 1 Joystick Control for All Steering Functions & Forward / Reverse Directions for Transporter
- 1 Camera Lift Control for Optional Electronic Camera Lift
- 1 All Other Controls for Camera to Include:
 - 1 Camera Iris and Focus Override & Zoom
 - 1 Camera Lights & Shutter Control for Light Enhancement
 - 1 Camera Diagnostics & Auto Home
- 1 Cruise Control to Set Speed of the Transporter for Hands Off Operation
- 1 All Reel Controls to Include: Retrieve, Release, and Variable Speed [Excluding Dolly Systems]

1 [RACK MOUNT] COMPUTER W/GraniteNet BASIC TO INCLUDE (MINIMUM):* **

- 1 Motherboard with Intel 8th Gen. LGA 1151 Socket; Intel Z370 Chipset
- 1 Intel Core i7-8700 Processor at 3.2 GHz
- 1 Intel UHD Graphics 630 with HDMI/DVI/VGA
- 1 8 GB DDR4 RAM, 2400 MHz
- 2 Intel Gigabit Network adapters
- 1 Intel AC 7265 Dual Band Wireless adapter; 802.11 a/b/g/n/ac
- 1 Bluetooth 4.2
- 6 USB 3.1 Gen 1 ports (4 rear, 2 front)
- 2 USB 3.1 Gen 2 ports (1 type A, 1 type C)
- 1 250 Gigabyte M.2 Solid State Drive
- 1 1 Terabyte SATA Hard Drive, 7200 RPM
- 1 DVD +/- RW Optical Drive
- 1 USB Video Capture Device for MPEG 1 / 2 / 4 / WMV
- 2 RS232 Serial Comm Ports
- 1 500 Watt 1U ATX Power Supply
- 1 Industrial Hardened Case Slim 2U Design for 19" Rack
- 1 Windows 10 Professional 64-bit Operating System
- 1 GraniteNet Basic Software

*Spec for computers can change without notice

**International Configuration may vary to comply with the U.S. Department of Commerce, Bureau of Industry & Security regulations on export of technology

1 USB BLACK COMPUTER KEYBOARD AND MOUSE

1 HP OFFICEJET COLOR PRINTER

1 GraniteNet BASIC SUPPORT PLAN

- 1 PACP MODULE GraniteNet SOFTWARE**
- 1 MAINLINE INSPECTION MODULE GraniteNet SOFTWARE**
- 1 DATA GIS SYSTEMS REMOTE ONLINE IMPLEMENTATION ASSISTANCE GraniteNet**
- 1 ESRI IMPORT MODULE GraniteNet SOFTWARE**
- 1 ESRI INTERFACE MODULE GraniteNet SOFTWARE**
- 2 GraniteNet OFFICE SUPPORT PLAN**
- 2 GraniteNet OFFICE KIT**
- 1 MANHOLE TOP ROLLER ASSEMBLY, TV ONLY**
- 1 MANHOLE ADAPTER CLAW HOOK**
- 6 POLE ASSY, RETRIEVAL/DOWNHOLE TL,58"**
- 1 INVERT ROLLER ASSEMBLY**
- 1 RETRIEVAL HOOK**
- 1 MULTI CONDUCTOR TV ONLY TOOL KIT**
 - 1 Milliampmeter Tool
 - 1 Electrical Tape
 - 1 Needle Nose Pliers
 - 1 Six-In-One Screwdriver
 - 1 6" Adjustable Wrench
 - 1 Anti Seize Grease
 - 1 9-Piece Allen Wrench kit
 - 1 Solder Iron Kit
 - 1 Industrial Pliers
 - 1 5/32 T-Handle Hex Wrench
 - 1 Multi Conductor TV Only Operation Manual
 - 1 Parts Catalog
 - 1 Cable Repair Kit DVD
 - 1 TV Only Training DVD
- 1 LIFETIME CUSTOMER SERVICE AND TECHNICAL SUPPORT ACCESS**
 - 1 22+ software support staff
 - 1 45+ technical support staff
 - 1 25+ customer service support staff
- 1 LIFETIME LOANER AND PARTS INVENTORY ACCESS**
 - 1 \$2.7+ million available loaner inventory from five (5) factory locations
 - 1 Customer only responsible for freight to/from factory for loaners
 - 1 \$10+ million parts inventory housed in United States
 - 1 98% parts orders ship same day
 - 1 95% inventory accuracy
- 1 CUES PRODUCTS ARE 100% DESIGNED AND BUILT IN AMERICA**
- 1 CUES PRODUCTS 100% COMPATABLE WITH CITY OF PERORIA'S CURRENT CCTV SYSTEM**

1 TRAINING, ON-SITE (THREE DAYS)

1 TRUCK DELIVERY TO SEDONA, ARIZONA



**CITY COUNCIL
AGENDA BILL**

**AB 2529
September 24, 2019
Consent Items**

Agenda Item: 3f
Proposed Action & Subject: Approval of Re-Plat of Park Place 2nd Amended Final Plat at 3865 W State Route 89A. The property is zoned multi-family residential (RM-2) and is located south of W State Route 89A between Upper Red Rock Loop Road and Foothills South Drive. APN: 800-98-006Z, 408-11-455 through 408-11-531. Applicant: Miramonte Arizona, LLC Case Number: PZ18-00007 (SUB).

| | |
|-------------------------------|---|
| Department | Community Development |
| Time to Present | N/A |
| Total Time for Item | |
| Other Council Meetings | October 28, 2003; March 24, 2004; June 8, 2004; July 12, 2005 (Approval of Final Plat); August 12, 2008; May 27, 2014 |
| Exhibits | A. Re-Plat of Park Place 2 nd Amended Final Plat |

| | | | |
|-------------------------------|---|-----------------------------|-------------------------------------|
| City Attorney Approval | 9/16/2019 SDC | Expenditure Required | \$ 0 |
| City Manager's Recommendation | Approve the re-plat of Park Place 2 nd amended Final Plat. | Amount Budgeted | \$ 0 |
| | | Account No. (Description) | N/A |
| | | Finance Approval | <input checked="" type="checkbox"/> |

SUMMARY STATEMENT

Background: The applicant is requesting approval of an amended final plat (Re-Plat of Park Place, 2nd Amended Final Plat) to amend the previously approved 88-unit condominium subdivision to a 70-unit condominium and townhouse subdivision (12 condominiums and 58 townhouses) at 3865 W State Route 89A. The original subdivision and development review applications for 88 condominium units were approved in 2005. After the first 12 condominium units were completed, construction stalled, and the remaining 76 units were never constructed.

The current property owner acquired the property in 2017 and began to pursue approvals to build out the rest of the project. The Planning and Zoning Commission unanimously approved a development review application for the design of the proposed townhouses on May 21, 2019. In order to move forward to the building permit phase, an amended final plat must be approved to line up the parcel lines with the approved building footprints. As the proposal would reduce the total number of units within the subdivision from 88 to 70 (a reduction of 18 units), this is

considered a Minor Final Plat Amendment and is being processed in accordance with the subdivision procedures for minor plat amendments.

Evaluation of Proposal

City Staff has reviewed the Amended Final Plat and determined that all requirements have been met. The roads are in the same locations as the original plat, with some additional roadways added to the northern portion of the subdivision to provide access to all units. The overall unit count in the subdivision has been reduced from 88 to 70. There are no additional undeveloped areas on the plat, meaning that there is no space for additional units.

Once the amended final plat is approved, it must be recorded with Yavapai County, which will assign new parcel numbers to each lot. Building permits may be issued and construction may begin after new parcel numbers are assigned.

Please note that, due to file size constraints, only the Final Plat is included as an attachment to this agenda bill. Additional project materials, including the development review application, construction plans, engineering reports and previous submittals, are available online at:

[http://sedonaaz.gov/your-government/departments/community-development/projects-and-proposals/park-place.](http://sedonaaz.gov/your-government/departments/community-development/projects-and-proposals/park-place)

Community Plan Consistent: Yes - No - Not Applicable

The property is designated Multi-Family Medium/High Density in the Community Plan. The proposed development is consistent with that designation.

Board/Commission Recommendation: Applicable - Not Applicable

The Planning and Zoning Commission does not review or forward a recommendation on Minor Final Plat Amendments. However, the Commission reviewed and unanimously approved the associated development review application on May 21, 2019 (5-0 vote, Commissioners Braam and Hosseini excused).

Alternative(s): N/A

MOTION

I move to: approve the Re-Plat of Park Place, 2nd Amended Final Plat as set forth in case number PZ18-00007 (SUB), Park Place, based on compliance with all ordinance requirements and satisfaction of the Subdivision criteria and applicable Land Development Code requirements.

FILE: P:\2017\17186\DRAWINGS\PLATS\FINAL\17186 - CIV.DWG MAJUNG
 PLOTTED: Sep 05, 2019 - 12:15pm

DECLARATION AND DEDICATION:

STATE OF ARIZONA }
 COUNTY OF YAVAPAI } SS

- PARK PLACE CONDOMINIUM ASSOCIATION, AN ARIZONA NONPROFIT CORPORATION ("CONDOMINIUM ASSOCIATION"), WHICH IS THE UNIT OWNERS' ASSOCIATION FOR PARK PLACE CONDOMINIUM, DESCRIBED AND DEPICTED HEREON AS TRACT 'B', ACTING PURSUANT TO AND IN COMPLIANCE WITH SECTIONS 33-1227, 33-1242 AND 33-1252 OF THE ARIZONA REVISED STATUTES, AND PARK PLACE PRESIDIO, LLC, AN ARIZONA LIMITED LIABILITY COMPANY ("DECLARANT"), AS OWNER OF THE REAL PROPERTY DESCRIBED AND DEPICTED HEREON EXCEPT FOR TRACT 'B', HEREBY PUBLISH UNDER THE NAME "PARK PLACE" A PORTION OF SECTION 15, TOWNSHIP 17 NORTH, RANGE 5 EAST, GILA AND SALT RIVER BASE AND MERIDIAN, YAVAPAI COUNTY, ARIZONA. ASSOCIATION AND DECLARANT HEREBY DECLARE THAT THE PLAT SETS FORTH THE LOCATION AND GIVES THE DIMENSIONS OF UNITS, LOTS AND EASEMENTS, AND THAT SUCH UNITS, LOTS AND EASEMENTS SHALL BE KNOWN BY THE NUMBER, LETTER OR NAME GIVEN HEREON.
- DECLARANT HEREBY RESERVES AND DEDICATES OVER AND ACROSS ALL THOSE AREAS LISTED AS TRACT 'C', AS SHOWN HEREON AND ALL IMPROVEMENTS NOW OR HEREAFTER CONSTRUCTED THEREON, AND GRANTS TO THE OWNERS OF LOTS IN PARK PLACE TOWNHOMES AND OWNERS OF UNITS IN PARK PLACE CONDOMINIUM, A BLANKET EASEMENT FOR INGRESS AND EGRESS AND RECREATIONAL PURPOSES, SUBJECT TO THE CONDITIONS SET FORTH IN THE MUTUAL USE AND EASEMENT AGREEMENT RECORDED IN THE OFFICIAL RECORDS OF YAVAPAI COUNTY, ARIZONA FOLLOWING RECORDING OF THIS PLAT ("MUTUAL USE AGREEMENT").
- DECLARANT HEREBY RESERVES AND DEDICATES OVER AND ACROSS ALL THOSE AREAS LISTED AS TRACTS 'A' AND 'D' AS SHOWN HEREON AND ALL IMPROVEMENTS NOW OR HEREAFTER CONSTRUCTED THEREON, AND GRANTS TO THE OWNERS OF LOTS IN PARK PLACE TOWNHOMES AND OWNERS OF UNITS IN PARK PLACE CONDOMINIUM, A BLANKET EASEMENT FOR INGRESS AND EGRESS AND RECREATIONAL PURPOSES, SUBJECT TO THE CONDITIONS SET FORTH IN THE TOWNHOME DECLARATION OF CONDITIONS RESTRICTIONS AND EASEMENTS RECORDED IN THE OFFICIAL RECORDS OF YAVAPAI COUNTY, ARIZONA FOLLOWING RECORDING OF THIS PLAT ("TOWNHOME CC&RS").
- DECLARANT HEREBY RESERVES AND DEDICATES OVER AND ACROSS THE PARK PLACE TOWNHOMES INCLUDING ALL THOSE AREAS LISTED AS TRACTS 'A', 'C', AND 'D' AS SHOWN HEREON AND GRANTS TO APPLICABLE PUBLIC AND PRIVATE UTILITY COMPANIES AND EMERGENCY SERVICE PROVIDERS A BLANKET EASEMENT FOR INGRESS AND EGRESS, AND FOR INSTALLATION, OPERATION AND MAINTENANCE OF PUBLIC AND PRIVATE UTILITY LINES AND FACILITIES, INCLUDING WITHOUT LIMITATION DRAINAGE, WATER, SEWER, ELECTRIC, NATURAL GAS, TELEPHONE AND CABLE TELEVISION AND OTHER COMMUNICATION LINES AND SYSTEMS.
- THE CONDOMINIUM ASSOCIATION HEREBY RESERVES AND DEDICATES OVER AND ACROSS ALL THOSE AREAS LISTED AS COMMON ELEMENTS WITHIN TRACT 'B' AS SHOWN HEREON TO APPLICABLE PUBLIC AND PRIVATE UTILITY COMPANIES AND EMERGENCY SERVICE PROVIDERS A BLANKET EASEMENT FOR INGRESS AND EGRESS, AND FOR INSTALLATION, OPERATION AND MAINTENANCE OF PUBLIC AND PRIVATE UTILITY LINES AND FACILITIES, INCLUDING WITHOUT LIMITATION DRAINAGE, WATER, SEWER, ELECTRIC, NATURAL GAS, TELEPHONE AND CABLE TELEVISION AND OTHER COMMUNICATION LINES AND SYSTEMS.
- THE CONDOMINIUM ASSOCIATION HEREBY RESERVES AND DEDICATES OVER AND ACROSS ALL THOSE AREAS LISTED AS COMMON ELEMENTS WITHIN TRACT 'B' AS SHOWN HEREON TO DECLARANT OR ITS ASSIGNEE, AN EASEMENT FOR ACCESS TO AND MAINTENANCE OF THE SUBDIVISION PERIMETER WALL SUBJECT TO THE MUTUAL USE AGREEMENT.
- DECLARANT HEREBY RESERVES AND DEDICATES OVER AND ACROSS ALL THOSE AREAS LISTED AS PARK PLACE TOWNHOMES AS SHOWN HEREON TO DECLARANT OR ITS ASSIGNEE, AN EASEMENT FOR ACCESS TO AND MAINTENANCE OF ALL DRAINAGE EASEMENTS, THE SUBDIVISION PERIMETER WALL, AND INSTALLATION AND MAINTENANCE OF LANDSCAPING ON THE EXTERIOR SIDE OF THE SUBDIVISION PERIMETER WALL.

IN WITNESS WHEREOF, ASSOCIATION AND DECLARANT HAVE CAUSED THIS PLAT TO BE DULY EXECUTED AS OF THE _____ DAY OF _____, 2019.

PARK PLACE CONDOMINIUM ASSOCIATION

BY: _____, PRESIDENT

PARK PLACE PRESIDIO, LLC
 BY MIRAMONTE HOLDINGS, LLC, MANAGER
 BY KEMMERLY MIRAMONTE, LLC, MEMBER

BY: _____, MEMBER

ACKNOWLEDGMENTS

STATE OF ARIZONA }
 COUNTY OF COCONINO } SS

ON THIS _____ DAY OF _____, 2019, BEFORE ME, THE UNDERSIGNED NOTARY PUBLIC, PERSONALLY APPEARED _____, PERSONALLY KNOWN TO ME OR SHOWN BY SATISFACTORY EVIDENCE TO BE THE PERSON WHOSE SIGNATURE APPEARS ABOVE, AND ACKNOWLEDGED TO ME THAT HE SIGNED THE FOREGOING DOCUMENT FOR THE PURPOSES THEREIN CONTAINED. IN WITNESS WHEREOF, I HAVE SET MY HAND AND OFFICIAL SEAL.

SEAL: _____
 NOTARY PUBLIC

STATE OF ARIZONA }
 COUNTY OF COCONINO } SS

ON THIS _____ DAY OF _____, 2019, BEFORE ME, THE UNDERSIGNED NOTARY PUBLIC, PERSONALLY APPEARED _____, PERSONALLY KNOWN TO ME OR SHOWN BY SATISFACTORY EVIDENCE TO BE THE PERSON WHOSE SIGNATURE APPEARS ABOVE, AND ACKNOWLEDGED TO ME THAT HE SIGNED THE FOREGOING DOCUMENT FOR THE PURPOSES THEREIN CONTAINED. IN WITNESS WHEREOF, I HAVE SET MY HAND AND OFFICIAL SEAL.

SEAL: _____
 NOTARY PUBLIC

CERTIFICATE OF APPROVALS

COMMUNITY DEVELOPMENT DEPARTMENT

DIRECTOR OF COMMUNITY DEVELOPMENT - KAREN OSBURN DATE _____

PUBLIC WORKS DEPARTMENT

CITY ENGINEER - J. ANDY DICKEY, PE DATE _____

SEDONA FIRE DISTRICT

FIRE MARSHAL - JON DAVIS DATE _____

CITY COUNCIL

MAYOR - SANDY MORIARTY DATE _____

CITY CLERK - SUSAN IRVINE DATE _____

PARK PLACE RE-PLAT OF PARK PLACE 2ND AMENDED FINAL PLAT

AS RECORDED IN BOOK 60 OF MAP AND PLATS, PAGES 50-70
 AS PREVIOUSLY RECORDED IN BOOK 58 OF MAPS AND PLATS, PAGES 93-113
 AS PREVIOUSLY RECORDED IN BOOK 55 OF MAPS AND PLATS, PAGES 14-33

APPLICATION # PZ18-00007(SUB)

A PORTION OF SECTION 15,
 TOWNSHIP 17 NORTH, RANGE 5 EAST,
 GILA AND SALT RIVER, BASE AND MERIDIAN,
 YAVAPAI COUNTY, ARIZONA
 CONTAINING 9.73 ACRES MORE OR LESS

BASIS OF BEARING AND ELEVATIONS PER (R)

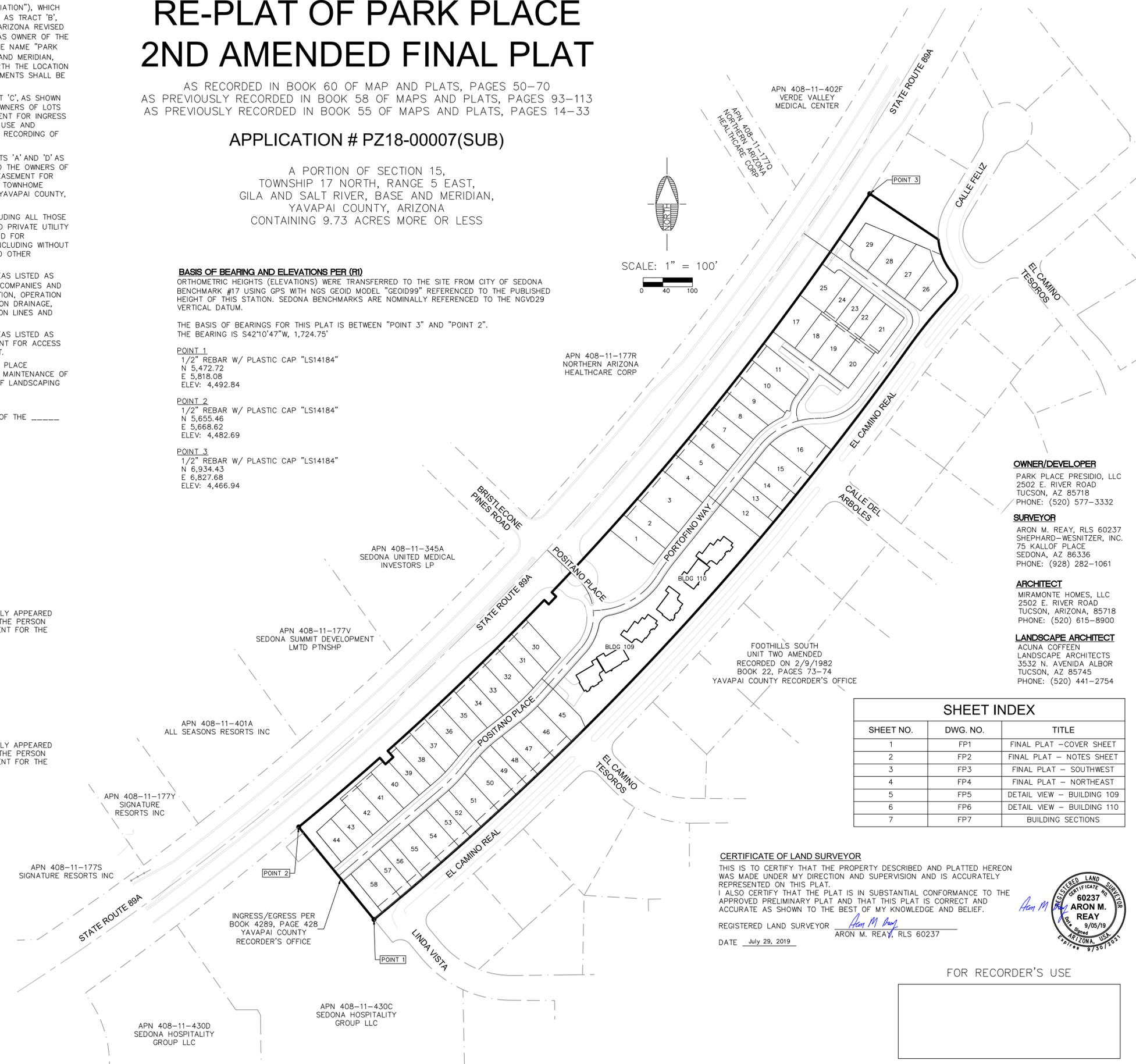
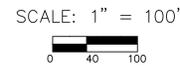
ORTHOMETRIC HEIGHTS (ELEVATIONS) WERE TRANSFERRED TO THE SITE FROM CITY OF SEDONA BENCHMARK #17 USING GPS WITH NGS GEOID MODEL "GEOID99" REFERENCED TO THE PUBLISHED HEIGHT OF THIS STATION. SEDONA BENCHMARKS ARE NOMINALLY REFERENCED TO THE NGVD29 VERTICAL DATUM.

THE BASIS OF BEARINGS FOR THIS PLAT IS BETWEEN "POINT 3" AND "POINT 2".
 THE BEARING IS S42°10'47"W, 1,724.75'

POINT 1
 1/2" REBAR W/ PLASTIC CAP "LS14184"
 N 5,472.72
 E 5,818.08
 ELEV: 4,492.84

POINT 2
 1/2" REBAR W/ PLASTIC CAP "LS14184"
 N 5,655.46
 E 5,668.62
 ELEV: 4,482.69

POINT 3
 1/2" REBAR W/ PLASTIC CAP "LS14184"
 N 6,934.43
 E 6,827.68
 ELEV: 4,466.94



OWNER/DEVELOPER
 PARK PLACE PRESIDIO, LLC
 2502 E. RIVER ROAD
 TUCSON, AZ 85718
 PHONE: (520) 577-3332

SURVEYOR
 ARON M. REAY, RLS 60237
 SHEPHARD-WESNITZER, INC.
 75 KALLOF PLACE
 SEDONA, AZ 86336
 PHONE: (928) 282-1061

ARCHITECT
 MIRAMONTE HOMES, LLC
 2502 E. RIVER ROAD
 TUCSON, ARIZONA, 85718
 PHONE: (520) 615-8900

LANDSCAPE ARCHITECT
 ACUNA COFFEEN
 LANDSCAPE ARCHITECTS
 3532 N. AVENIDA ALBOR
 TUCSON, AZ 85745
 PHONE: (520) 441-2754

| SHEET INDEX | | |
|-------------|----------|----------------------------|
| SHEET NO. | DWG. NO. | TITLE |
| 1 | FP1 | FINAL PLAT - COVER SHEET |
| 2 | FP2 | FINAL PLAT - NOTES SHEET |
| 3 | FP3 | FINAL PLAT - SOUTHWEST |
| 4 | FP4 | FINAL PLAT - NORTHEAST |
| 5 | FP5 | DETAIL VIEW - BUILDING 109 |
| 6 | FP6 | DETAIL VIEW - BUILDING 110 |
| 7 | FP7 | BUILDING SECTIONS |

CERTIFICATE OF LAND SURVEYOR

THIS IS TO CERTIFY THAT THE PROPERTY DESCRIBED AND PLATTED HEREON WAS MADE UNDER MY DIRECTION AND SUPERVISION AND IS ACCURATELY REPRESENTED ON THIS PLAT.
 I ALSO CERTIFY THAT THE PLAT IS IN SUBSTANTIAL CONFORMANCE TO THE APPROVED PRELIMINARY PLAT AND THAT THIS PLAT IS CORRECT AND ACCURATE AS SHOWN TO THE BEST OF MY KNOWLEDGE AND BELIEF.

REGISTERED LAND SURVEYOR *Aron M. Reay*
 ARON M. REAY, RLS 60237
 DATE July 29, 2019



FOR RECORDER'S USE

CITY OF SEDONA
 ARIZONA

PARK PLACE

FINAL PLAT - COVER SHEET

| | |
|----------|----------|
| JOB NO: | 17186 |
| DATE: | SEP 19 |
| SCALE: | AS SHOWN |
| DRAWN: | MWJ |
| DESIGN: | AMB/MWJ |
| CHECKED: | AMB/AMR |

75 Kallof Place
 Sedona, AZ 86336
 928.282.1061 fax
 928.282.2058 fax
 www.swi.az.com

SWI
 Shephard Wesnitzer, Inc.

| NO. | DESCRIPTION | DATE | BY |
|-----|-------------|------|----|
| | | | |

| | |
|-------------|-----|
| DRAWING NO. | FP1 |
| SHT NO. | 1 |
| OF | 7 |

FINAL PLAT NOTES:

- 1. NO STRUCTURE OF ANY KIND SHALL BE CONSTRUCTED OR PLACED WITHIN OR OVER UTILITY EASEMENTS EXCEPT: UTILITIES, WOOD, WIRE, OR REMOVABLE SECTION TYPE OF FENCING, ASPHALT PAVING, GRAVEL, CONCRETE, OR OTHER DRIVEWAY MATERIALS OR SUITABLE LANDSCAPING. IT SHALL BE FURTHER UNDERSTOOD THAT THE UTILITY COMPANIES SHALL NOT BE REQUIRED TO REPLACE OBSTRUCTIONS, PAVING OR PLANTING THAT MUST BE REMOVED DURING THE COURSE OF MAINTENANCE, CONSTRUCTION OR RECONSTRUCTION OF UTILITIES.
2. EACH OF THE CONDOMINIUM UNITS SHOWN HEREON ARE SUBJECT TO THE DECLARATION AND ANY AMENDMENTS THERETO RECORDED WITH THE COUNTY RECORDER OF YAVAPAI COUNTY ARIZONA. EACH OF THE TOWNHOME LOTS SHOWN HEREON ARE SUBJECT TO THE DECLARATION OF COVENANTS, CONDITIONS, AND RESTRICTIONS AND ANY AMENDMENTS THERETO RECORDED WITH THE COUNTY RECORDER OF YAVAPAI COUNTY ARIZONA.
3. PROPERTY BOUNDARY INFORMATION SHOWN HEREON WAS OBTAINED FROM A RESULTS OF SURVEY COMPLETED ON APRIL 4, 2005 SIGNED BY WM. TOD GRAHAM I, R.L.S. 14184, RECORDED IN BOOK 125 OF MAPS AND PLATS, PAGE 2 OF THE YAVAPAI RECORDER'S OFFICE (R1). NO BOUNDARY SURVEY WAS PERFORMED BY SHEPHARD-WESNITZER, INC.
4. LOT CORNERS SHALL BE SET WITHIN 120 DAYS OF COMPLETION OF CONSTRUCTION AND ACCORDING TO THE RECORDING OF THIS FINAL PLAT. LOT CORNERS WILL BE MONUMENTED WITH 1/2" REBAR WITH ALUMINUM CAP STAMPED 'RLS 60237', OR OTHER ACCEPTED CORNER MONUMENT. CENTERLINE MONUMENTS WILL BE A BRASS CAPPED MONUMENT AT P.C.'S, P.T.'S AND INTERSECTION POINTS AND WILL BE INSTALLED BY THE CONTRACTOR UPON COMPLETION OF PAVING OPERATIONS.
5. BUILDING SETBACKS AS SHOWN HEREON, ARE PER CITY OF SEDONA DEVELOPMENT CODE.
6. NO LINES, WIRES, OR OTHER SERVICES FOR THE COMMUNICATION OR TRANSMISSION OF ELECTRIC CURRENT OR POWER OR ELECTROMAGNETIC IMPULSES, INCLUDING TELEPHONE, TELEVISION, AND RADIO SIGNALS, SHALL BE CREATED, PLACED, OR MAINTAINED ANYWHERE IN OR UPON THE PROPERTY UNLESS THEY ARE CONTAINED IN CONDUITS TO CABLES INSTALLED AND MAINTAINED UNDERGROUND OR CONCEALED IN, UNDER, OR ON BUILDINGS OR OTHER STRUCTURES APPROVED BY THE RELEVANT PARK PLACE HOMEOWNERS ASSOCIATION OR DECLARANT. NOTWITHSTANDING THE FOREGOING, BUT SUBJECT TO ANY APPLICABLE REQUIREMENTS OF GOVERNMENTAL AUTHORITIES, THE RELEVANT ASSOCIATION MAY AUTHORIZE THE ERECTION OF MICROWAVE TOWERS AND SIMILAR STRUCTURES ON COMMON AREAS FOR CENTRALIZED RECEPTION, TRANSMISSION, AND RETRANSMISSION OF MICROWAVE AND SIMILAR SIGNALS. NO PROVISION OF THIS PLAT APPROVED SHALL BE DEEMED TO FORBID THE ERECTION OF TEMPORARY POWER OR TELEPHONE STRUCTURES INCIDENT TO THE CONSTRUCTION OF BUILDINGS, STRUCTURES, OR IMPROVEMENTS APPROVED BY THE RELEVANT ASSOCIATION.
7. THE BOUNDARIES OF EACH CONDOMINIUM UNIT SHALL BE AS FOLLOWS:
A. THE VERTICAL BOUNDARIES ARE THE INTERIOR UNFINISHED SURFACES OF THE PERIMETER WALLS, DOORS, AND WINDOWS OF THE UNIT.
B. THE HORIZONTAL BOUNDARY SHALL BE THE CONCRETE FLOOR OF THE UNIT.
C. THE UPPER HORIZONTAL BOUNDARY SHALL BE A HORIZONTAL PLANE HAVING AN ELEVATION EQUAL TO THE HIGHEST POINT OF THE FINISHED CEILING OF THE UNIT
8. THE CONDOMINIUM COMMON ELEMENT IS ALL THE SPACE EXCEPTING THE UNITS AND GARAGES AS SHOWN HEREON, AND AS DESCRIBED IN THE CONDOMINIUM DECLARATION.

DRAINAGE NOTES:

- 1. NO CHAIN LINK, WOVEN WIRE OR BLOCK WALL FENCES ARE TO BE PLACED WITHIN THOSE AREAS NECESSARY TO CONVEY STORM RUNOFF FROM THE SUBDIVISION.
2. NO STRUCTURE OF ANY KIND SHALL BE CONSTRUCTED OR ANY VEGETATION BE PLANTED NOR BE ALLOWED TO GROW WITHIN, ON OR OVER WATERCOURSES WHICH ARE OUTSIDE THE BUILDING ENVELOPES WHICH WOULD OBSTRUCT OR DIVERT THE FLOW OF STORM WATER.
3. THE OWNER OF SUBDIVISION PROPERTY WHICH INCLUDES A WATERCOURSE IS RESPONSIBLE FOR MAINTAINING THE NATURAL AND MANMADE WATERCOURSES' CONDITION AS IT WAS WHEN THIS SUBDIVISION PLAT IS APPROVED. NATURAL OR MANMADE WATERCOURSES SHALL NOT BE MOVED FROM THE LOCATION EXISTING AT THE TIME OF THIS PLAT APPROVAL (UNLESS APPROVED BY THE CITY OF SEDONA AND THE PROPOSED ACTION IS REVIEWED TO DETERMINE THE APPLICABILITY OF CORPS OF ENGINEERS OR OTHER FEDERAL, STATE OR LOCAL PERMITTING). THESE WATERCOURSES WILL REQUIRE PERIODIC MAINTENANCE TO CONVEY ON-SITE OR OFF-SITE DISCHARGES. PERIODIC MAINTENANCE WILL CONSIST OF THE REMOVAL OF EARTH AND/OR VEGETATIVE MATERIAL THAT HAS BUILT UP SINCE THE APPROVAL OF THIS PLAT OF THIS SUBDIVISION.
4. CLASS II EASEMENTS ARE HEREBY GRANTED TO THE PROPERTY OWNERS OF THIS SUBDIVISION FOR DRAINAGE PURPOSES AS SHOWN ON THIS PLAT IN THE AREAS MARKED DRAINAGE EASEMENT. THE OWNER OF THE PROPERTY WHICH INCLUDES A DRAINAGE EASEMENT IS RESPONSIBLE FOR MAINTAINING THE DRAINAGE EASEMENTS' CONDITION AS IT WAS WHEN THIS SUBDIVISION PLAT WAS APPROVED. DRAINAGE EASEMENTS CONFORM TO THE NATURAL OR MAN-MADE WATERCOURSES AND SHALL NOT BE MOVED FROM THE LOCATION EXISTING AT THE TIME OF THE APPROVAL OF THE SUBDIVISION (UNLESS APPROVED BY THE YAVAPAI COUNTY FLOOD CONTROL DISTRICT).
THESE DRAINAGE EASEMENTS MAY REQUIRE PERIODIC MAINTENANCE TO CONVEY ON-SITE OR OFF-SITE DISCHARGES. PERIODIC MAINTENANCE MAY CONSIST OF THE REMOVAL OF EARTH AND/OR VEGETATIVE MATERIAL THAT HAS BUILT UP SINCE THE ORIGINAL APPROVAL OF THIS PLAT OF THE SUBDIVISION.
IF THE DRAINAGE EASEMENTS ARE NOT ADEQUATELY MAINTAINED, THE RELEVANT GOVERNMENTAL AUTHORITY WILL NOT BE RESPONSIBLE OR LIABLE FOR ANY DAMAGE. HOWEVER, IT HAS THE AUTHORITY TO ENTER ONTO THE SITE AND MAINTAIN THE DRAINAGE EASEMENTS AT THE EXPENSE OF THE PROPERTY OWNERS. SHOULD COURT ACTION BE NECESSARY TO COLLECT THESE BILLS, THE PROPERTY OWNER(S) SHALL BE RESPONSIBLE FOR ATTORNEY'S FEES AND COURT COSTS.
5. THE CONDOMINIUM UNIT OWNERS, THROUGH THE CONDOMINIUM ASSOCIATION, ARE RESPONSIBLE FOR MAINTAINING THE DRAINAGE EASEMENTS AND WATERCOURSES ON TRACT B. THE DECLARANT OR ITS HOMEOWNER ASSOCIATION ASSIGNEE IS RESPONSIBLE FOR MAINTAINING THE DRAINAGE EASEMENTS AND WATERCOURSES ON PARK PLACE TOWNHOMES INCLUDING TRACTS A, C, AND D.

LEGAL DESCRIPTION - PARK PLACE TOWNHOMES

A PARCEL OF LAND LYING IN SECTION 15, TOWNSHIP 17 NORTH, RANGE 5 EAST, GILA AND SALT RIVER MERIDIAN, YAVAPAI COUNTY, ARIZONA, MORE PARTICULARLY DESCRIBED AS FOLLOWS:
COMMENCING FOR REFERENCE AT THE WESTERLY MOST CORNER OF LOT 163 OF THE FOOTHILLS SOUTH UNIT TWO AMENDED AS RECORDED IN BOOK 22 OF MAPS AND PLATS, PAGES 73 AND 74 OF THE YAVAPAI COUNTY RECORDER'S OFFICIAL RECORDS. FROM WHICH A FOUND REBAR AND CAP BEARS SOUTH 42°10'47" W, A DISTANCE OF 1724.75' (BASIS OF BEARINGS FOR THIS DESCRIPTION) SAID POINT OF COMMENCEMENT BEING MONUMENTED BY A FOUND REBAR AND CAP STAMPED 'RLS 14184'; SAID POINT ALSO BEING THE TRUE POINT OF BEGINNING.
THENCE SOUTH 56°23'16" EAST, A DISTANCE OF 167.01 FEET TO A POINT OF CUSP ON A CURVE CONCAVE TO THE NORTHEAST HAVING A RADIUS OF 120.00 FEET AND A CENTRAL ANGLE OF 37°18'30" AND BEING SUBTENDED BY A CHORD WHICH BEARS SOUTH 23°43'37" EAST 76.77 FEET;
THENCE SOUTHERLY AND SOUTHEASTERLY ALONG SAID CURVE, A DISTANCE OF 78.14 FEET TO THE BEGINNING OF A CURVE CONCAVE TO THE WEST; HAVING A RADIUS OF 27.89 FEET AND A CENTRAL ANGLE OF 86°43'55" AND BEING SUBTENDED BY A CHORD THAT BEARS SOUTH 0°59'05" WEST, A DISTANCE OF 38.30 FEET;
THENCE SOUTHEASTERLY, SOUTHERLY AND SOUTHWESTERLY A DISTANCE OF 42.22 FEET ALONG THE CURVE CONCAVE TO THE WEST TO THE BEGINNING OF A CURVE HAVING A RADIUS OF 900.00 FEET, A CENTRAL ANGLE OF 8°44'38" AND BEING SUBTENDED BY A CHORD THAT BEARS SOUTH 39°58'43" WEST, A DISTANCE OF 137.22 FEET;
THENCE SOUTHWESTERLY A DISTANCE OF 137.35 FEET ALONG SAID CURVE TO THE BEGINNING OF A CURVE CONCAVE TO THE NORTHWEST, HAVING A RADIUS OF 6035.58 FEET, A CENTRAL ANGLE OF 4°40'20" AND BEING SUBTENDED BY A CHORD THAT BEARS SOUTH 37°56'34" WEST, A DISTANCE OF 492.05 FEET;
THENCE SOUTHWESTERLY A DISTANCE OF 492.19 FEET ALONG SAID CURVE;
THENCE NORTH 51°04'26" WEST, A DISTANCE OF 105.15 FEET;
THENCE SOUTH 38°55'34" WEST, A DISTANCE OF 145.17 FEET TO THE BEGINNING OF A CURVE TANGENT TO SAID LINE;
THENCE SOUTHWESTERLY A DISTANCE OF 45.10 FEET ALONG THE CURVE CONCAVE TO THE SOUTHEAST, HAVING A RADIUS OF 387.00 FEET AND A CENTRAL ANGLE OF 6°40'40", TO THE BEGINNING OF A CURVE CONCAVE TO THE NORTHWEST, HAVING A RADIUS OF 163.00 FEET, A CENTRAL ANGLE OF 47°03'47" AND BEING SUBTENDED BY A CHORD THAT BEARS SOUTH 55°46'48", A DISTANCE OF 130.16 FEET;
THENCE SOUTHWESTERLY AND WESTERLY A DISTANCE OF 133.89 FEET ALONG SAID CURVE, TO THE BEGINNING OF A CURVE CONCAVE TO THE SOUTHWEST, HAVING A RADIUS OF 26.50 FEET, A CENTRAL ANGLE OF 68°20'27" AND BEING SUBTENDED BY A CHORD THAT BEARS SOUTH 45°08'28" WEST, A DISTANCE OF 29.77 FEET;
THENCE WESTERLY, SOUTHWESTERLY AND SOUTHERLY A DISTANCE OF 31.61 FEET ALONG SAID CURVE, TO THE BEGINNING OF A CURVE CONCAVE TO THE NORTHWEST HAVING A RADIUS OF 113.00 FEET, A CENTRAL ANGLE OF 30°57'42" AND BEING SUBTENDED BY A CHORD THAT BEARS SOUTH 26°27'06" WEST, A DISTANCE OF 60.32 FEET;
THENCE SOUTHERLY AND SOUTHWESTERLY A DISTANCE OF 61.06 FEET ALONG SAID CURVE;
THENCE SOUTH 41°55'56" WEST, A DISTANCE OF 105.58 FEET;
THENCE SOUTH 44°06'58" EAST, A DISTANCE OF 101.85 FEET TO THE BEGINNING OF A CURVE CONCAVE TO THE NORTHWEST HAVING A RADIUS OF 6035.58 FEET AND A CENTRAL ANGLE OF 52°9'31" AND BEING SUBTENDED BY A CHORD WHICH BEARS SOUTH 47°59'00" WEST 578.30 FEET;
THENCE SOUTHWESTERLY ALONG SAID CURVE, A DISTANCE OF 578.53 FEET;
THENCE NORTH 39°16'14" WEST, A DISTANCE OF 241.00 FEET TO A POINT OF CUSP ON A CURVE CONCAVE TO THE NORTHWEST HAVING A RADIUS OF 5795.58 FEET AND A CENTRAL ANGLE OF 2°07'59" AND BEING SUBTENDED BY A CHORD WHICH BEARS NORTH 49°40'14" EAST 215.74 FEET;
THENCE NORTHEASTERLY ALONG SAID CURVE, A DISTANCE OF 215.76 FEET;
THENCE SOUTH 41°29'13" EAST, A DISTANCE OF 17.17 FEET;
THENCE NORTH 48°31'47" EAST, A DISTANCE OF 21.34 FEET;
THENCE NORTH 41°29'13" WEST, A DISTANCE OF 17.18 FEET TO THE BEGINNING OF A CURVE CONCAVE TO THE NORTHWEST HAVING A RADIUS OF 5795.58 FEET AND A CENTRAL ANGLE OF 4°20'59" AND BEING SUBTENDED BY A CHORD WHICH BEARS NORTH 46°13'05" EAST 439.88 FEET;
THENCE NORTHEASTERLY ALONG SAID CURVE, A DISTANCE OF 439.99 FEET;
THENCE SOUTH 46°15'35" EAST, A DISTANCE OF 12.47 FEET TO THE BEGINNING OF A CURVE CONCAVE TO THE NORTHWEST HAVING A RADIUS OF 5822.03 FEET AND A CENTRAL ANGLE OF 0°12'47" AND BEING

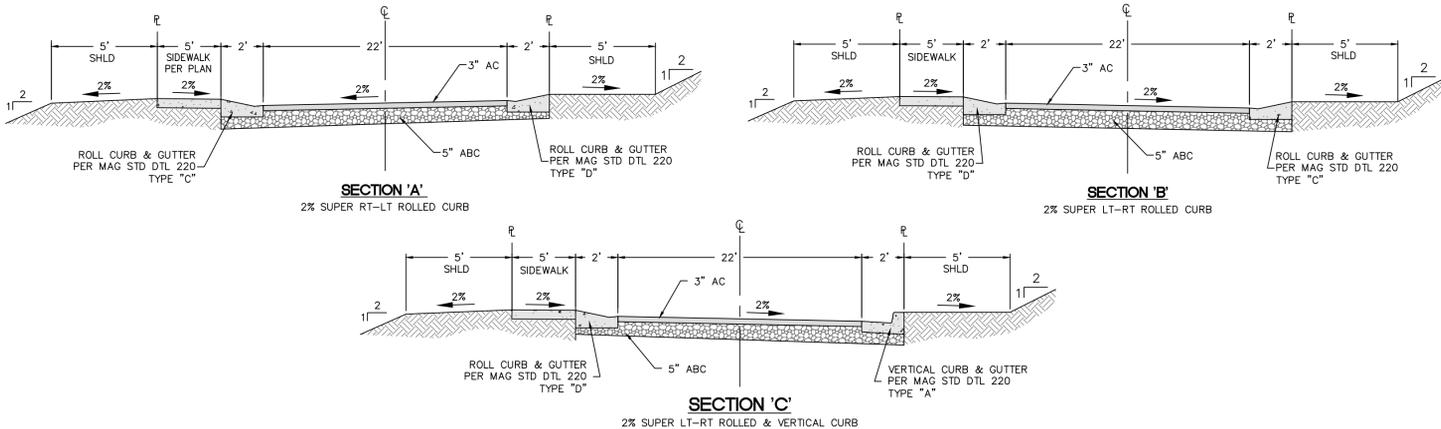
SUBTENDED BY A CHORD THAT BEARS NORTH 43°46'24" EAST, A DISTANCE OF 21.64 FEET;
THENCE NORTHEASTERLY A DISTANCE OF 21.64 FEET ALONG SAID CURVE;
THENCE NORTH 46°14'42" WEST, A DISTANCE OF 12.41 FEET TO THE BEGINNING OF A CURVE HAVING A RADIUS OF 5795.58 FEET AND A CENTRAL ANGLE OF 10°12'25" AND BEING SUBTENDED BY A CHORD WHICH BEARS NORTH 38°43'33" EAST 1031.09 FEET;
THENCE NORTHEASTERLY ALONG SAID CURVE, A DISTANCE OF 1032.45 FEET TO THE TRUE POINT OF BEGINNING.
CONTAINING 8.50 ACRES, MORE OR LESS.
LEGAL DESCRIPTION - PARK PLACE CONDOMINIUM
A PARCEL OF LAND LYING IN SECTION 15, TOWNSHIP 17 NORTH, RANGE 5 EAST, GILA AND SALT RIVER MERIDIAN, YAVAPAI COUNTY, ARIZONA, MORE PARTICULARLY DESCRIBED AS FOLLOWS:
COMMENCING FOR REFERENCE AT THE WESTERLY MOST CORNER OF LOT 163 OF THE FOOTHILLS SOUTH UNIT TWO AMENDED AS RECORDED IN BOOK 22 OF MAPS AND PLATS, PAGES 73 AND 74 OF THE YAVAPAI COUNTY RECORDER'S OFFICIAL RECORDS. FROM WHICH A FOUND REBAR AND CAP BEARS SOUTH 42°10'47" W, A DISTANCE OF 1724.75' (BASIS OF BEARINGS FOR THIS DESCRIPTION) SAID POINT OF COMMENCEMENT BEING MONUMENTED BY A FOUND REBAR AND CAP STAMPED 'RLS 14184';
THENCE SOUTH 56°23'16" EAST, A DISTANCE OF 167.01 FEET TO A POINT OF CUSP ON A CURVE CONCAVE TO THE NORTHEAST HAVING A RADIUS OF 120.00 FEET AND A CENTRAL ANGLE OF 37°18'30" AND BEING SUBTENDED BY A CHORD WHICH BEARS SOUTH 23°43'37" EAST 76.77 FEET;
THENCE SOUTHERLY AND SOUTHEASTERLY ALONG SAID CURVE, A DISTANCE OF 78.14 FEET TO THE BEGINNING OF A CURVE CONCAVE TO THE WEST; HAVING A RADIUS OF 27.89 FEET AND A CENTRAL ANGLE OF 86°43'55" AND BEING SUBTENDED BY A CHORD THAT BEARS SOUTH 0°59'05" WEST, A DISTANCE OF 38.30 FEET;
THENCE SOUTHEASTERLY, SOUTHERLY AND SOUTHWESTERLY A DISTANCE OF 42.22 FEET ALONG THE CURVE CONCAVE TO THE WEST TO THE BEGINNING OF A CURVE HAVING A RADIUS OF 900.00 FEET, A CENTRAL ANGLE OF 8°44'38" AND BEING SUBTENDED BY A CHORD THAT BEARS SOUTH 39°58'43" WEST, A DISTANCE OF 137.22 FEET;
THENCE SOUTHWESTERLY A DISTANCE OF 137.35 FEET ALONG SAID CURVE TO THE BEGINNING OF A CURVE CONCAVE TO THE NORTHWEST, HAVING A RADIUS OF 6035.58 FEET, A CENTRAL ANGLE OF 4°40'20" AND BEING SUBTENDED BY A CHORD THAT BEARS SOUTH 37°56'34" WEST, A DISTANCE OF 492.05 FEET;
THENCE SOUTHWESTERLY A DISTANCE OF 492.19 FEET ALONG SAID CURVE TO THE TRUE POINT OF BEGINNING;
THENCE NORTH 51°04'26" WEST, A DISTANCE OF 105.15 FEET;
THENCE SOUTH 38°55'34" WEST, A DISTANCE OF 145.17 FEET TO THE BEGINNING OF A CURVE TANGENT TO SAID LINE;
THENCE SOUTHWESTERLY A DISTANCE OF 45.10 FEET ALONG THE CURVE CONCAVE TO THE SOUTHEAST, HAVING A RADIUS OF 387.00 FEET AND A CENTRAL ANGLE OF 6°40'40", TO THE BEGINNING OF A CURVE CONCAVE TO THE NORTHWEST, HAVING A RADIUS OF 163.00 FEET, A CENTRAL ANGLE OF 47°03'47" AND BEING SUBTENDED BY A CHORD THAT BEARS SOUTH 55°46'48", A DISTANCE OF 130.16 FEET;
THENCE SOUTHWESTERLY AND WESTERLY A DISTANCE OF 133.89 FEET ALONG SAID CURVE, TO THE BEGINNING OF A CURVE CONCAVE TO THE SOUTHWEST, HAVING A RADIUS OF 26.50 FEET, A CENTRAL ANGLE OF 68°20'27" AND BEING SUBTENDED BY A CHORD THAT BEARS SOUTH 45°08'28" WEST, A DISTANCE OF 29.77 FEET;
THENCE WESTERLY, SOUTHWESTERLY AND SOUTHERLY A DISTANCE OF 31.61 FEET ALONG SAID CURVE, TO THE BEGINNING OF A CURVE CONCAVE TO THE NORTHWEST HAVING A RADIUS OF 113.00 FEET, A CENTRAL ANGLE OF 30°57'42" AND BEING SUBTENDED BY A CHORD THAT BEARS SOUTH 26°27'06" WEST, A DISTANCE OF 60.32 FEET;
THENCE SOUTHERLY AND SOUTHWESTERLY A DISTANCE OF 61.06 FEET ALONG SAID CURVE;
THENCE SOUTH 41°55'56" WEST, A DISTANCE OF 105.58 FEET;
THENCE SOUTH 44°06'58" EAST, A DISTANCE OF 101.85 FEET TO THE BEGINNING OF A CURVE CONCAVE TO THE NORTHWEST HAVING A RADIUS OF 6035.58 FEET AND A CENTRAL ANGLE OF 4°57'31" AND BEING SUBTENDED BY A CHORD WHICH BEARS NORTH 42°45'30" EAST 522.17 FEET
THENCE NORTHEASTERLY ALONG SAID CURVE, A DISTANCE OF 522.33 FEET TO THE TRUE POINT OF BEGINNING.
CONTAINING 1.23 ACRES, MORE OR LESS.

FOR RECORDER'S USE



LEGEND AND ABBREVIATIONS

- PROPERTY BOUNDARY
SETBACK
BUILDING TIE TO INTERIOR BUILDING WALL
LOT LINES
EXISTING LOT LINES
EASEMENTS
FOUND 1/2" REBAR PER (R1)
CENTERLINE MONUMENT (TO BE SET)
PROPERTY CORNER (TO BE SET)
CALCULATED POINT
RECORD DATA PER A RESULTS OF SURVEY AS RECORDED IN BOOK 125, PAGE 2 YAVAPAI COUNTY RECORDER'S OFFICE
APN ASSIGNORS PARCEL NUMBER
PRC POINT ON REVERSE CURVE
RB RADIAL BEARING

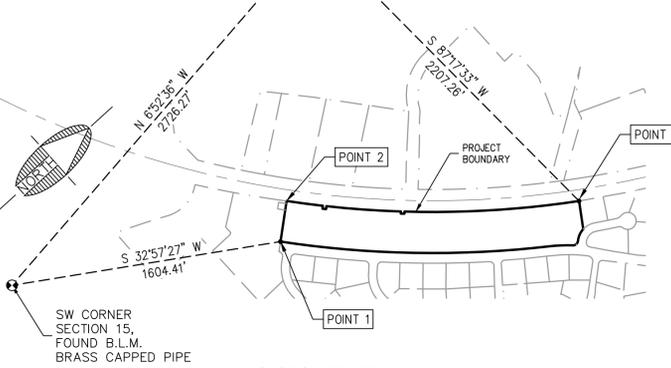


ROAD CROSS SECTIONS
NO SCALE

Vertical sidebar containing: CITY OF SEDONA ARIZONA, PARK PLACE, JOB NO. 17186, DATE: SEP 19, SCALE: AS SHOWN, DRAWN: MWJ, DESIGN: AHB/MWJ, CHECKED: AHB/AMR, 75 Killion Place, Sedona, AZ 86336, 928.282.2058 fax, www.swi.az.com, SWI logo, Shephard Wesnitzer, Inc., ARIZONA 801 logo, APPLICATION # P218-00007(SUB), DRAWING NO. FP2, SHT NO. 2 OF 7.

PLOTTED: Sep 05, 2019 - 12:15pm

WEST 1/4 CORNER SECTION 15
FOUND G.L.O. STONE MONUMENT



SECTION TIE DETAIL
NO SCALE

APN: 408-11-177V

APN: 408-11-345A

APN: 408-11-177R

| TRACT TABLE | | | |
|-------------|-------------|-------|---|
| TRACT | SQUARE FEET | ACRES | TRACT TYPE |
| TRACT 'A' | 25872 | 0.59 | PRIVATE ROADWAY, PUBLIC UTILITY EASEMENT, DRAINAGE INFRASTRUCTURE |
| TRACT 'B' | 53399 | 1.23 | PARK PLACE CONDOMINIUM |
| TRACT 'C' | 41697 | 0.96 | PRIVATE ROADWAY, OPEN SPACE, PUBLIC UTILITY EASEMENT, DRAINAGE INFRASTRUCTURE, COMMUNITY CENTER |
| TRACT 'D' | 54859 | 1.26 | PRIVATE ROADWAY, OPEN SPACE, PUBLIC UTILITY EASEMENT, DRAINAGE INFRASTRUCTURE |

| LINE TABLE | | |
|------------|--------|---------------|
| LINE # | LENGTH | DIRECTION |
| L1 | 10.00 | N 41°29'13" W |
| L2 | 7.17 | N 41°29'13" W |

NOTE:
RB=RADIAL BEARING

FOR RECORDER'S USE

CITY OF SEDONA
ARIZONA

PARK PLACE TOWNHOMES

FINAL PLAT - SOUTHWEST

JOB NO: 17186
DATE: SEP 19
SCALE: 1"=30'
DRAWN: MWJ
DESIGN: AHB/MWJ
CHECKED: AHB/AMR

75 Kellie's Place
Sedona, AZ 86336
928.821.106
928.282.2058 fax
www.swi.ioz.com

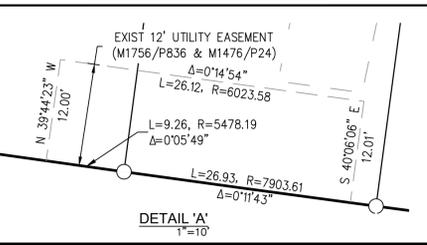
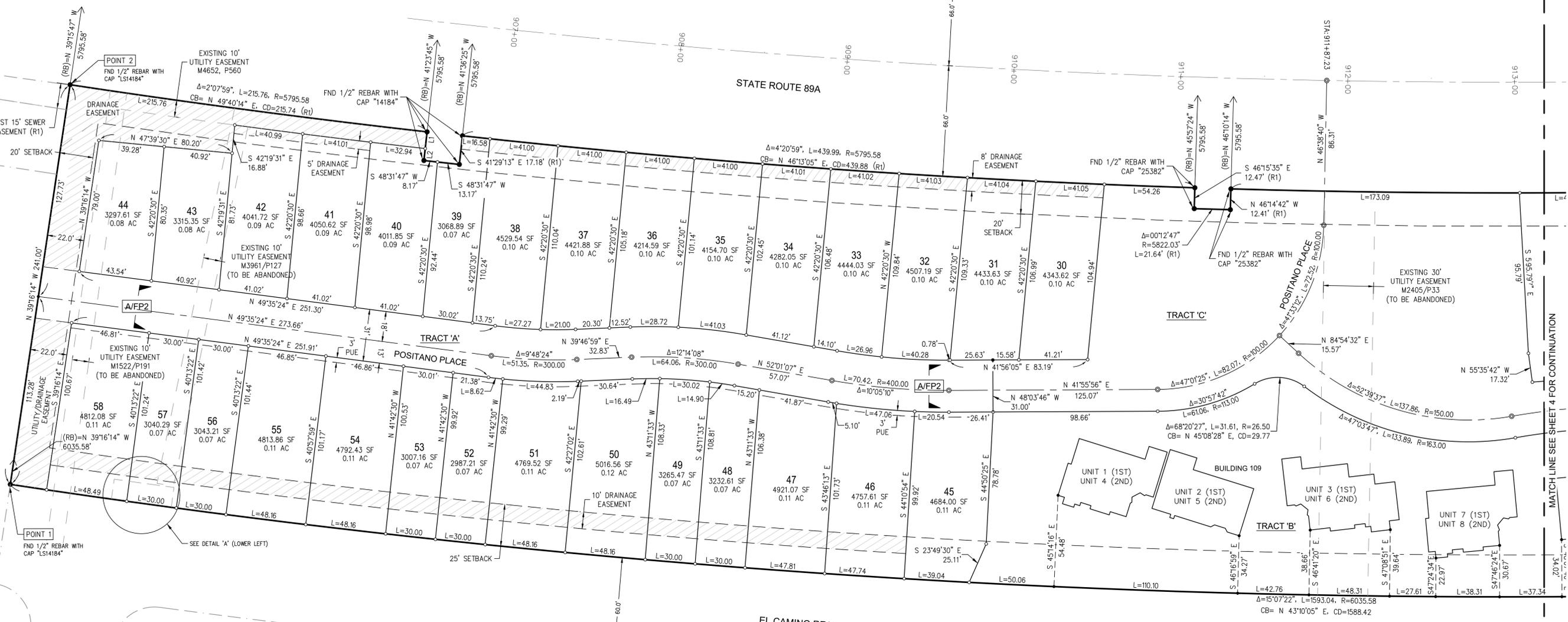
SWI
Shephard Westnizer, Inc.

| NO. | DESCRIPTION | DATE | BY |
|-----|-------------|------|----|
| | | | |
| | | | |
| | | | |

Call out least two full working days before you begin excavation.
ARIZONA 811
Arizona Blue Stakes, Inc.
808 841-8111 or 1-800-514-6111 (PZ-5148)

DRAWING NO.
FP3
SHT NO. 3 OF 7

FILE: P:\2017\17186\DRAWINGS\PLATS\FINAL\17186-FP.DWG, MWJ

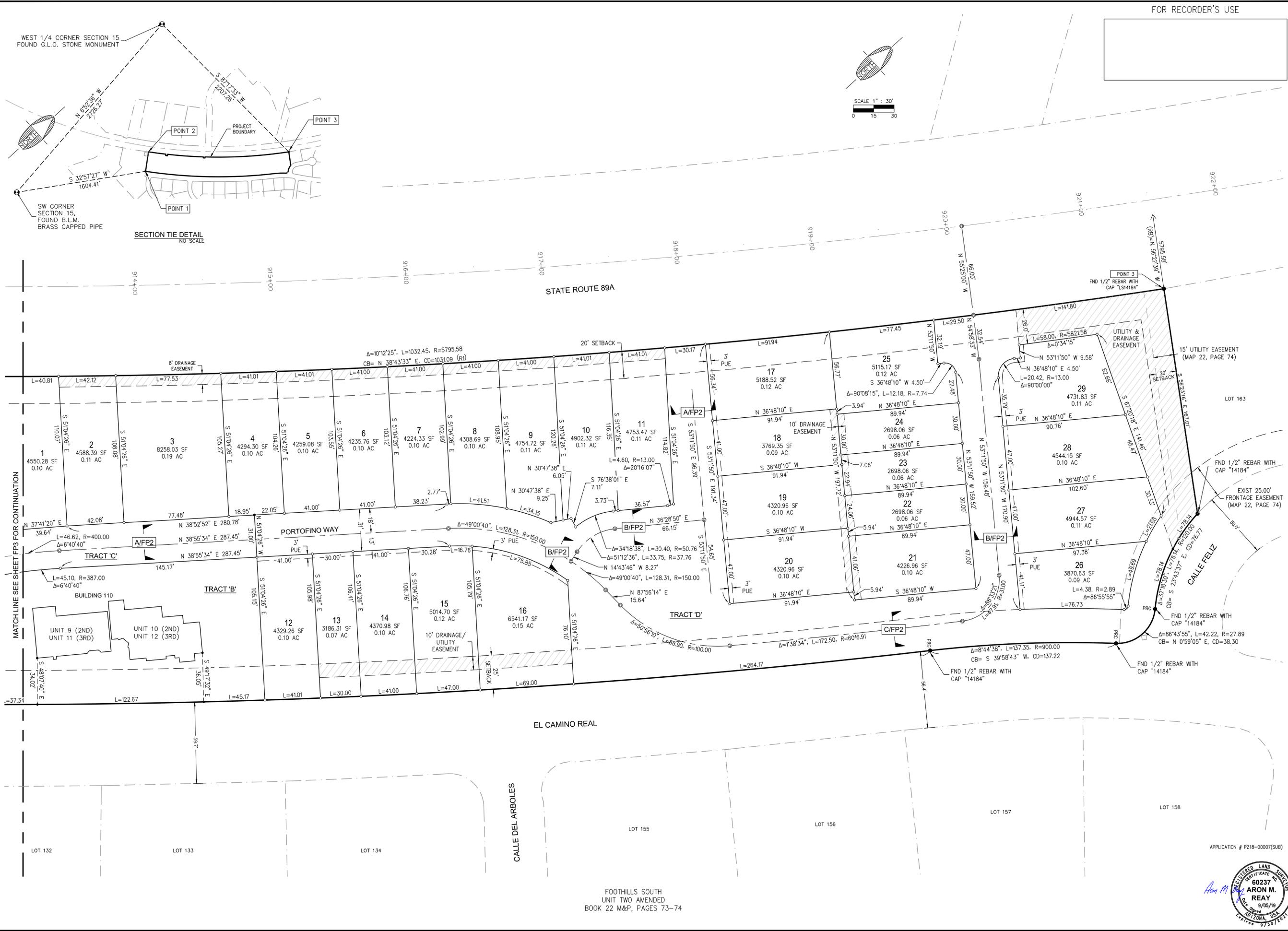


FOOTHILLS SOUTH
UNIT TWO AMENDED
BOOK 22 M&P, PAGES 73-74

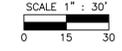
APPLICATION # P218-00007(SUB)
ARON M. REAY
9/05/19
SPECIAL AGENT
ARIZONA, USA
Expires 9/30/2021

PLOTTED: Sep 05, 2019 - 12:15pm

FILE: P:\2017\17186\DRAWINGS\PLATS\FINAL\17186-FP.DWG: M.J.M.J.



FOR RECORDER'S USE



SECTION TIE DETAIL
NO SCALE

STATE ROUTE 89A

EL CAMINO REAL

CALLE DEL ARBOLES

CALLE FELIZ

FOOTHILLS SOUTH
UNIT TWO AMENDED
BOOK 22 M&P, PAGES 73-74

CITY OF SEDONA
ARIZONA

PARK PLACE TOWNHOMES

FINAL PLAT - NORTHEAST

| | |
|----------|---------|
| JOB NO: | 17186 |
| DATE: | SEP 19 |
| SCALE: | 1"=30' |
| DRAWN: | MWJ |
| DESIGN: | AHB/MWJ |
| CHECKED: | AHB/AMR |

75 Killo's Place
 Sedona, AZ 86336
 928.282.1066
 928.282.2058 fax
 www.swi.ioz.com

| NO. | DESCRIPTION | DATE | BY |
|-----|-------------|------|----|
| | | | |
| | | | |

Call out least two full working days before you begin excavation.

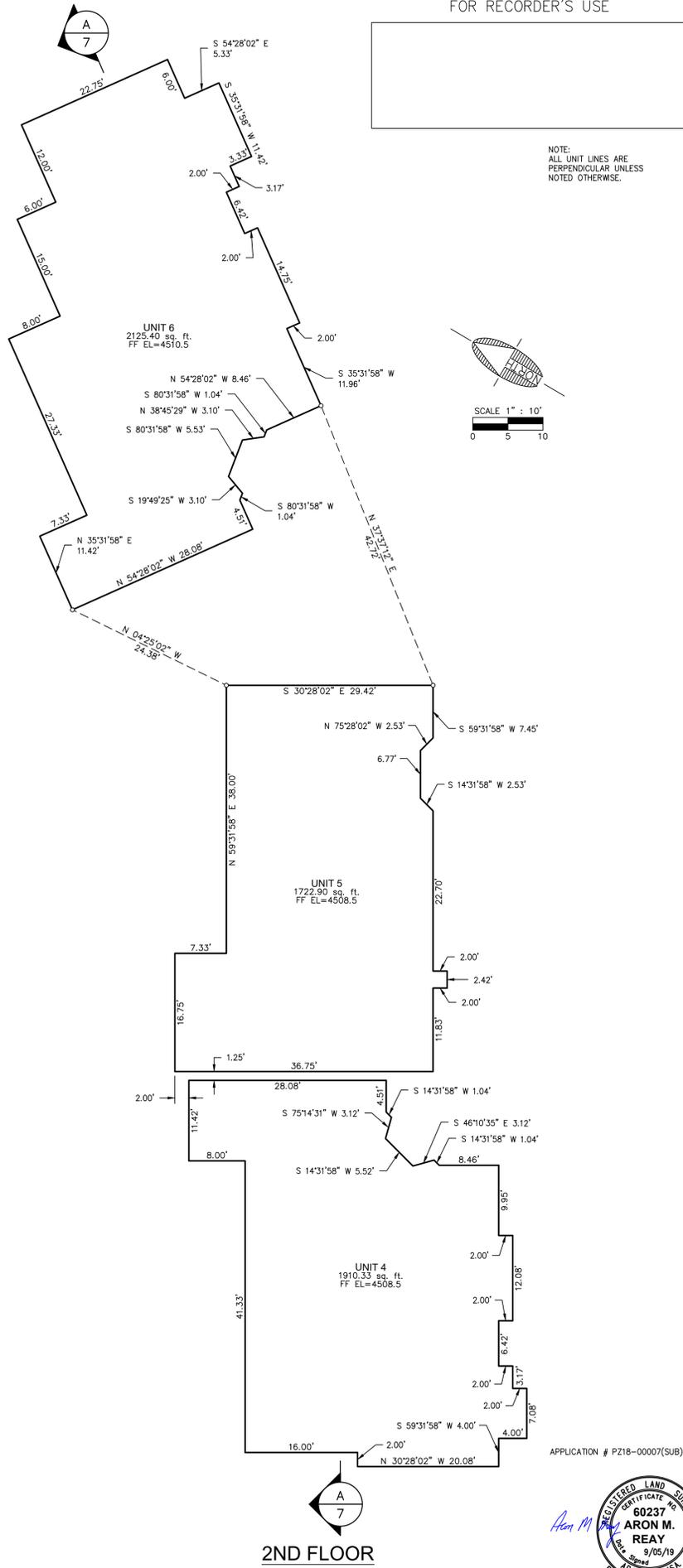
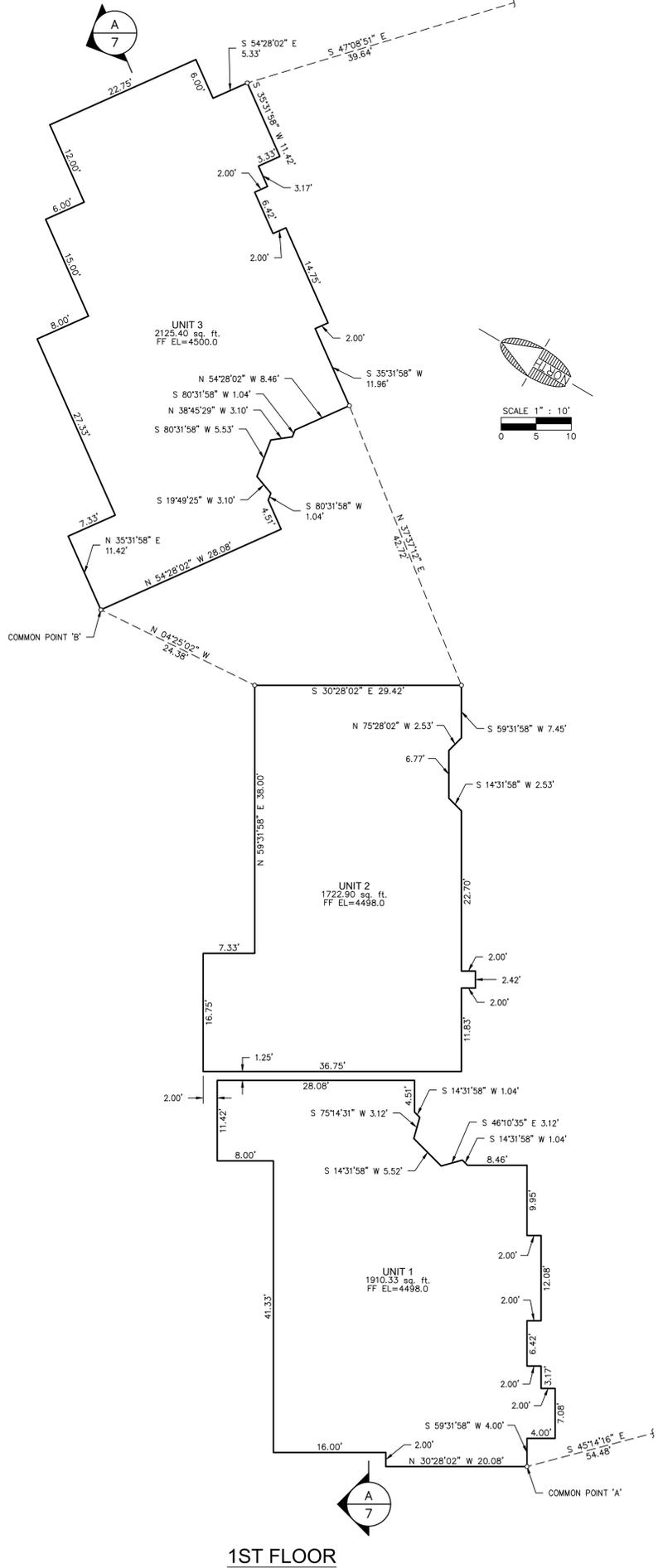
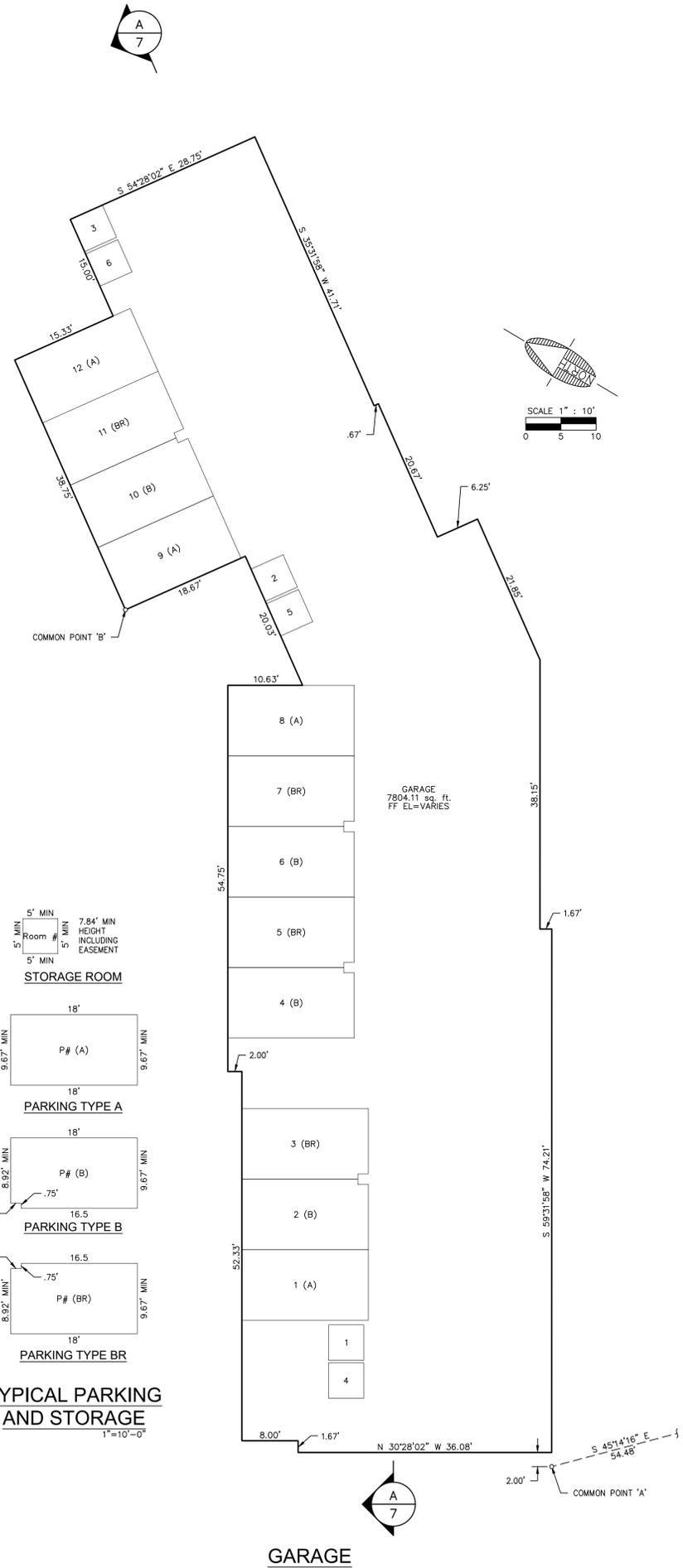
ARIZONA 811
Arizona One Stop Inc. (928-5348)
888-8-1-1 or 1-800-544-1111 (928-5348)

APPLICATION # P218-00007(SUB)

REGISTERED LAND SURVEYOR
 CERTIFICATE NO. 60237
ARON M. REAY
 9/05/19
 Sedona, Arizona, USA
 Expires 9/30/2021

DRAWING NO. **FP4**

| | |
|---------|----|
| SHT NO. | OF |
| 4 | 7 |



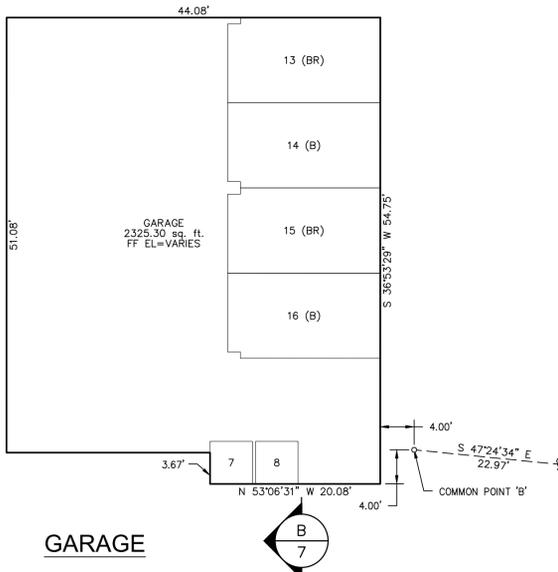
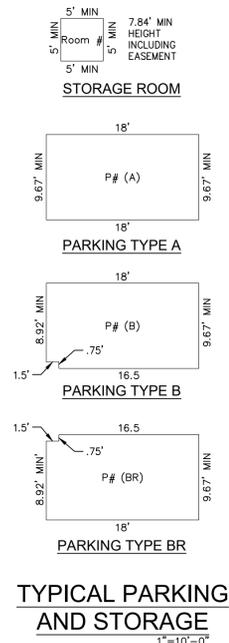
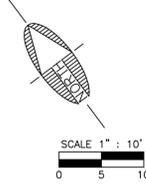
FOR RECORDER'S USE

NOTE:
ALL UNIT LINES ARE PERPENDICULAR UNLESS NOTED OTHERWISE.

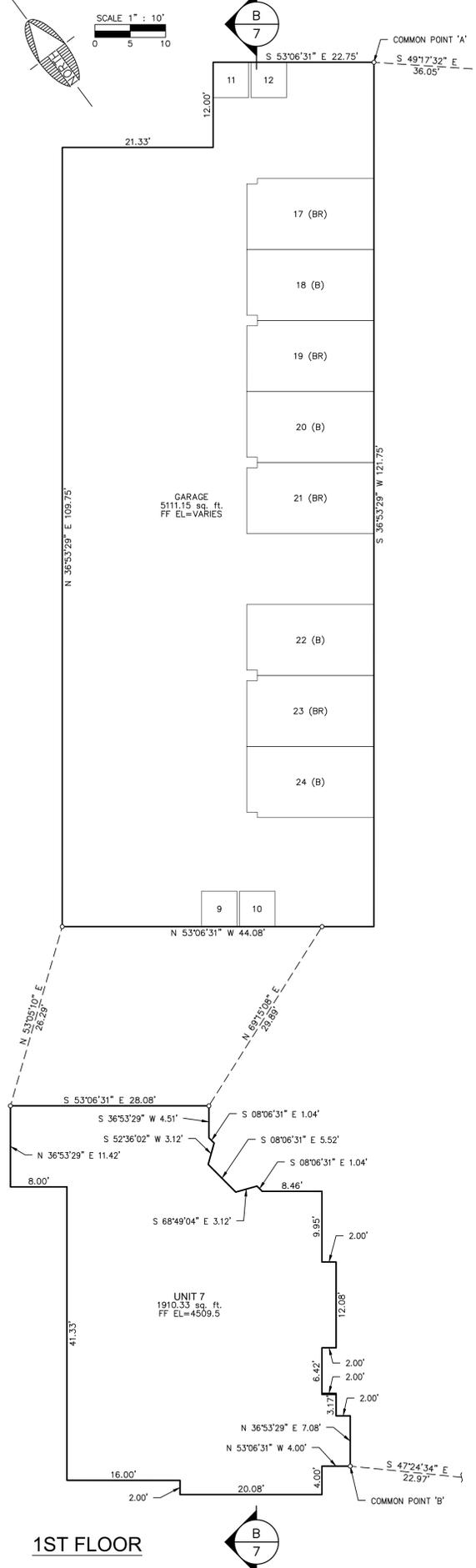
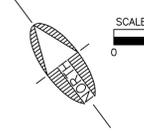
| | | | | | | | | | | | |
|---|--|---------------------------|-------------|------------------------|----|----------------------------|--|-----------------|--|------------------|--|
| JOB NO: 17186 | | DATE: SEP 19 | | SCALE: AS SHOWN | | DRAWN: MWJ | | DESIGN: AHB/MWJ | | CHECKED: AHB/AMR | |
| 7/5 Kelli's Place Scottsdale, AZ 85266 928.282.2058 fax www.swi/oz.com | | CITY OF SEDONA ARIZONA | | PARK PLACE CONDOMINIUM | | DETAIL VIEW - BUILDING 109 | | SHT NO. 5 | | OF 7 | |
| REVISIONS | | NO. | DESCRIPTION | DATE | BY | | | | | | |
| APPLICATION # P218-00007(SUB) | | DRAWING NO. FP5 | | SHT NO. 5 | | OF 7 | | | | | |



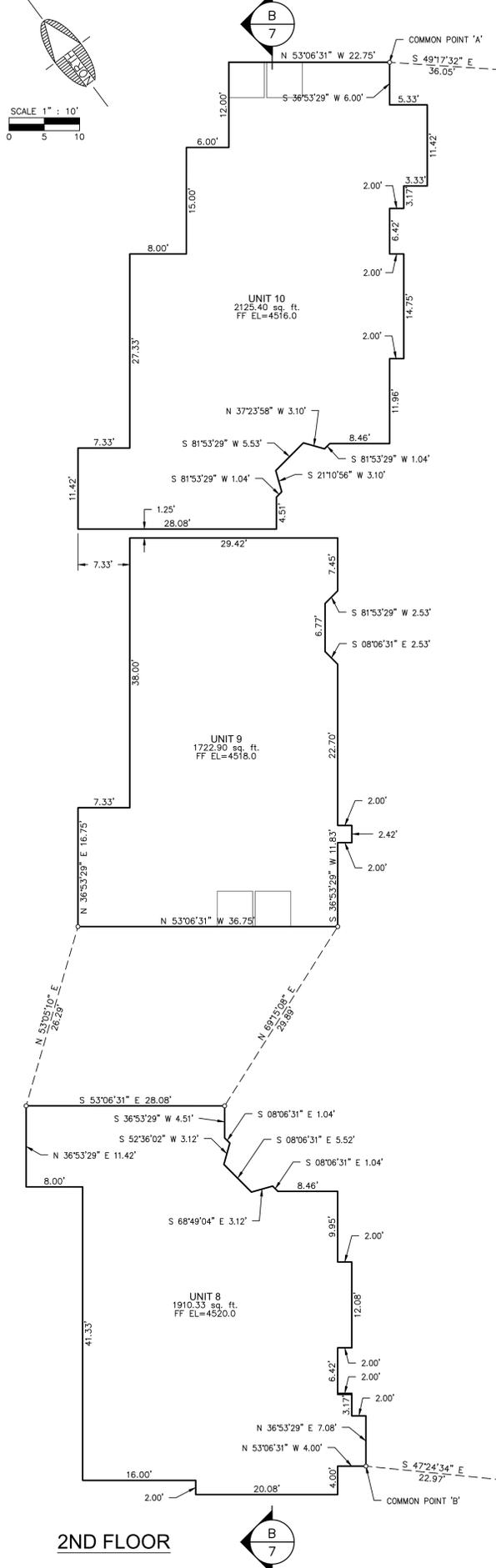
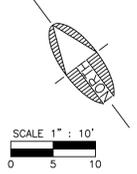
Call or text at least two full working days before you begin excavation.
088 8-1-1 or 1-800-514E-11 (782-5348)



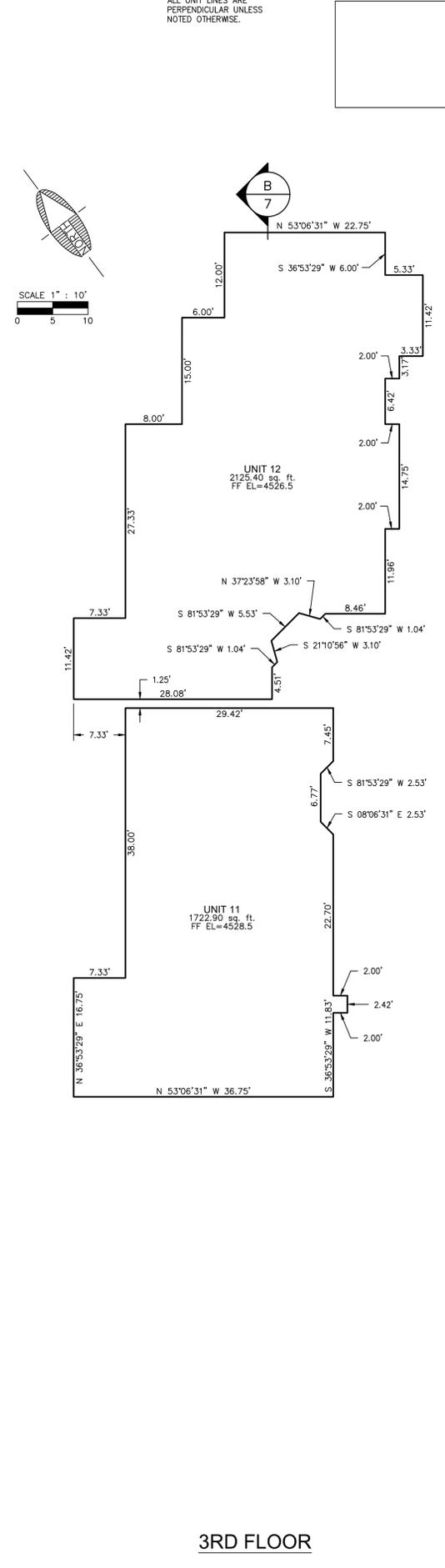
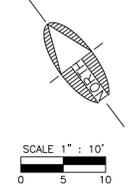
GARAGE



1ST FLOOR



2ND FLOOR



3RD FLOOR

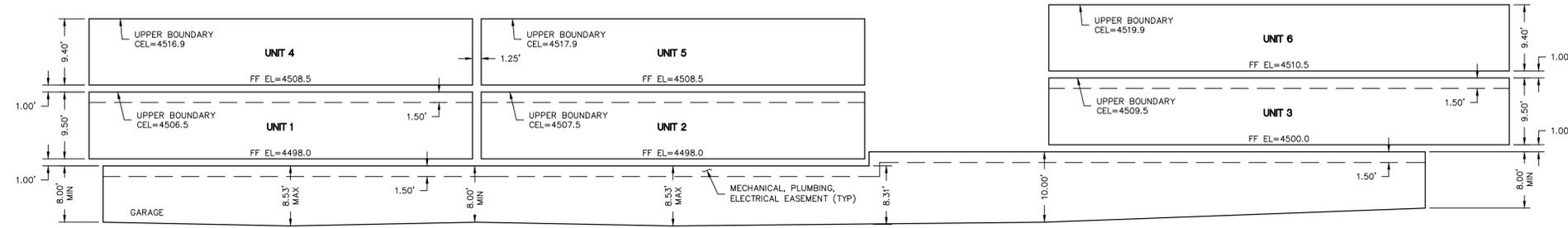
NOTE: ALL UNIT LINES ARE PERPENDICULAR UNLESS NOTED OTHERWISE.

FOR RECORDER'S USE

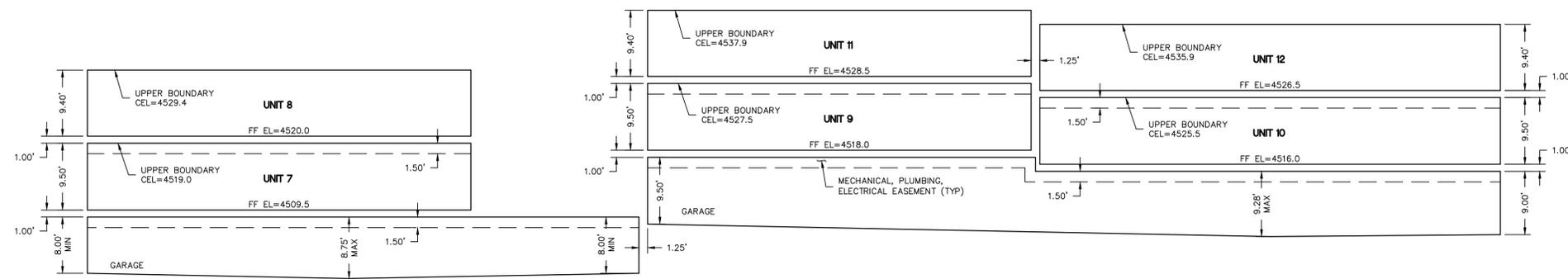
APPLICATION # P218-00007(SUB)



| | |
|---|------------------|
| CITY OF SEDONA ARIZONA | |
| PARK PLACE CONDOMINIUM | |
| DETAIL VIEW - BUILDING 110 | |
| JOB NO. 17186 | DATE: SEP 19 |
| SCALE: AS SHOWN | DRAWN: MWJ |
| DESIGN: AHB/MWJ | CHECKED: AHB/AMR |
| 75 Killion Place Suite 207 02882-1067 928.282.2058 fax www.swi.az.com | |
| | |
| REVISIONS | BY DATE |
| NO. DESCRIPTION | |
| Call out at least two full working days before you begin excavation. | |
| DRAWING NO. FP6 | SHT NO. 6 OF 7 |



BUILDING 109 - SECTION A
1"=10'



BUILDING 110 - SECTION B
1"=10'

FOR RECORDER'S USE

| | |
|--|----------|
| CITY OF SEDONA ARIZONA | |
| PARK PLACE CONDOMINIUM | |
| BUILDING SECTIONS | |
| JOB NO: | 17186 |
| DATE: | SEP 19 |
| SCALE: | AS SHOWN |
| DRAWN: | MWJ |
| DESIGN: | AHB/MWJ |
| CHECKED: | AHB/AMR |
| 75 Kallie Place Suite 107, 86336 028, 827, 106 928.282.2058 fax www.swi/az.com | |
| SWI Shephard Wesnitzer, Inc. | |
| REVISIONS | BY |
| NO. | DATE |
| DESCRIPTION | |
| | |
| | |
| | |
| APPLICATION # P218-00007(SUB) | |
| Call at least two full working days before you begin excavation. | |
| | |
| | |
| DRAWING NO. FP7 | |
| SHT NO. | OF |
| 7 | 7 |



**CITY COUNCIL
AGENDA BILL**

**AB 2530
September 24, 2019
Consent Items**

Agenda Item: 3g
Proposed Action & Subject: Approval of a Professional Services Contract for design services for the SR 179 Pedestrian Crossing at Tlaquepaque Project with WSP USA Inc. in an amount not-to-exceed \$297,099.

| | |
|-------------------------------|---|
| Department | Public Works |
| Time to Present | N/A |
| Total Time for Item | |
| Other Council Meetings | July 23, 2019 |
| Exhibits | A. Professional Services Contract – SR 179 Pedestrian Crossing at Tlaquepaque |

| | | | |
|-------------------------------|--|-----------------------------|---|
| City Attorney Approval | 9/16/2019 SDC | Expenditure Required | \$ 297,099 |
| City Manager's Recommendation | Approve a Professional Services Contract with WSP USA Inc. | Amount Budgeted | \$ 250,000 (FY20) |
| | | | \$ 70,000 (FY21) |
| | | Account No. (Description) | 22-5320-89-6881 Pedestrian Crossing at Tlaquepaque (SIM-04c) |
| | | Finance Approval | <input checked="" type="checkbox"/> |

SUMMARY STATEMENT

Staff is requesting approval of a professional services contract with WSP USA Inc. in the amount of \$297,000 for the design of the SR 179 Pedestrian Crossing at Tlaquepaque. Design development of the project will be consistent with Alternative 3: Underpass at Oak Creek as recommended by Council (July 23rd, 2019 regular council meeting) and as defined in the Final Feasibility Report, SR 179 at Tlaquepaque Pedestrian Crossing.

Background:

SIM-4C Pedestrian Crossing at Tlaquepaque

This project is associated with the Sedona Transportation Master Plan (TMP) - Strategy 4, SR 179 Improvements, Schnebly Hill Roundabout to the "Y". Strategy 4 of the TMP proposes a 4-component improvement program on SR 179 between the Schnebly Hill Roundabout and the "Y". As one of the four components, the Pedestrian Crossing at Tlaquepaque project, called for a tunnel or bridge type pedestrian crossing of SR 179 to replace the current crosswalk.

A feasibility study was conducted to assess the constraints for a tunnel or bridge crossing as well as to identify and evaluate alternatives for a pedestrian crossing of SR 179.

The final feasibility report entitled State Route 179 At Tlaquepaque Pedestrian Crossing identified four crossing alternatives. Alternative 1, consisting of an underground tunnel; Alternative 2, consisting of a pedestrian overpass; Alternative 3, consisting of an underpass at Oak Creek; and Alternative 4, consisting of a HAWK (**H**igh-intensity pedestrian **A**ctivated **W**alk crossing) traffic signal.

At its July 23, 2019 meeting, Council directed Staff to pursue a pedestrian crossing consistent with Alternative 3, underpass at Oak Creek. This alternative proposes a pathway for shared-use leading to and from existing roadway sidewalks on either side of SR 179 to and under the existing SR 179 Oak Creek bridge along the west abutment.

Alternative 3, was considered to have the least impacts on the roadway corridor and adjacent properties, provide added functionality and benefit for regional shared-use pathway development, meet the benefits and objectives identified in the TMP, and have the least cost among the first 3 alternatives recognized as meeting the crossing benefits/objectives of the TMP.

The following table provides a comparative summary of the total project costs for each of the alternatives.

| Alternative Description | Opinion of Cost |
|---------------------------------------|------------------------|
| Alternative 1: Underground Tunnel | \$3.5M |
| Alternative 2: Pedestrian Overpass | \$2.5M |
| Alternative 3: Underpass at Oak Creek | \$1.9M |
| Alternative 4: HAWK Traffic Signal | \$280,000 |

The installation of a shared-use path underpass at Oak Creek in this area of the corridor will separate pedestrians from the roadway and have the following benefits and objectives:

- alleviate conflicts between pedestrians and motorist;
- improve safety;
- provide a more uniform flow of traffic; and
- improve traffic volume

Potential impacts of the project include:

- Impacts to existing culture (trees, landscaping, decorative walls and related elements).
- Encroachment of private property and need to acquire right-of-way and/or easement area.
- Potential impact on private commercial parking area.
- Potential impact to existing utility infrastructure.
- Temporary impacts to vehicle/pedestrian traffic and businesses during construction.

With completion of the feasibility report for the State Route 179 At Tlaquepaque Pedestrian Crossing, staff initiated a direct selection process consistent with A.R.S Statute 34, Chapter 1, Section 34-103 in order to identify a qualified engineering consultant for completing design of the project. The direct selection process utilized the Sedona Public Work's annual inventory of submitted Architect – Engineer Qualifications for FY 20, from which a selection committee

consisting of three employees of Public Works identified an initial list of pre-qualified consultants based upon relevant experience. From this initial list the selection committee then further evaluated and rated the pre-qualified engineering consultants based on criteria of: project size vs size/capacity of firm; consultant qualifications/areas of experience; relevant and recent local experience; unique attributes/qualifications; and familiarity with City of Sedona. This evaluation and rating by the selection committee concluded with the top three ranked engineering consulting firms being as follows:

- 1) WSP USA Inc (considered most qualified);
- 2) AZTEC Engineering Group (considered second most qualified); and
- 3) Kimley-Horn and Associates (considered third most qualified).

Procurement:

Following the finding of the selection committee, staff began negotiations with WSP to develop an appropriate scope of work and fee basis for the projects design. Negotiations with WSP did conclude with a mutually satisfactory scope of work and fee for the project. A draft professional services contract and corresponding scope of work in an amount not to exceed \$297,099 is included in Exhibit A.

Budget:

The negotiated scope and fee falls within the overall project budget which consists of \$250,000 in FY20, and \$70,000 in FY21.

Design is expected to begin in September 2019, and be complete in August 2020.

Community Plan Consistent: Yes - No - Not Applicable

The Sedona In Motion program in general supports the six Vision Themes of the Sedona Community Plan.

- Environmental Stewardship: Conserves natural resources associated with wasteful vehicle operations due to congested travel time.
- Community Connections: Supports community connections through its emphases on public participation and involvement during design development and indirectly by improving mobility between gathering place in Uptown Sedona.
- Improved Traffic Flow: Reduces congestion and travel times and improves vehicle and pedestrian safety.
- Walkability: Reduces vehicle and pedestrian conflicts improving walkability and safety.
- Economic Diversity: Improves local resident and visitor access through multimodal transportation options and connections.
- Sense of Place: 1% of project expenditures will go towards the development of arts, cultural, or heritage. Projects will be built consistent with local codes and with intention on preserving or complimenting the natural and scenic beauty of Sedona.

Board/Commission Recommendation: Applicable - Not Applicable

Alternative(s): Council could elect not to approve the contract for professional design services; however, this action would have the effect of either delaying, or preventing the project from be carried out resulting in continued conflicts between pedestrian and vehicular traffic within the SR 179 corridor at Tlaquepaque.

MOTION

I move to: approve award of a professional services contract for the SR 179 Pedestrian Crossing at Tlaquepaque project to WSP USA Inc. in an amount not-to-exceed \$297,099 subject to approval of a written contract by the City Attorney's office.

EXHIBIT A

AB 2530 PW Exh A SR-179 Ped Crossing

CONTRACT FOR PROFESSIONAL SERVICES FOR THE CITY OF SEDONA

This contract is made and entered into on this ____ day of _____, 20 _____, by and between the City of Sedona ("CITY") and WSP USA Inc ("CONSULTANT").

1. A. The CONSULTANT agrees to perform certain consulting and coordinating services for CITY, in connection with **SR 179 Pedestrian Crossing at Tlaquepaque**, as set forth in **Exhibit A** (attached).
 - B. CITY agrees to pay the CONSULTANT as compensation for services on a time and materials basis in accordance with the process and fee schedule set forth in **Exhibit A** not to exceed a total amount of **\$297,099.00**. If deemed necessary by CITY, the CONSULTANT and CITY will confer to further define specific tasks in the scope of work and estimate the amount of time to be spent on those tasks.
 - C. Any work that is different from or in addition to the work specified shall constitute a change in the scope of work. No such change, including any additional compensation, shall be effective or paid unless authorized by written amendment executed by the City Manager and by CONSULTANT. If CONSULTANT proceeds without such written authorization, CONSULTANT shall be deemed to have waived any claims of unjust enrichment, *quantum meruit* or implied contract. Except as expressly provided herein, no agent, employee or representative of CITY shall have the authority to enter into any changes or modifications, either directly or implied by a course of action, relating to the terms and scope of this contract.
2. All correspondence, reports and other documentation of CONSULTANT'S work shall be considered confidential information and will be distributed only to those persons, organizations or agencies specifically designated by CITY or its authorized representative, or as specifically required for completion of CONSULTANT'S task, or pursuant to a public records request under ARS 39-121 and related provisions. In the event such request is made for a commercial purpose, CITY will notify CONSULTANT for purposes of redaction or protection of proprietary work/confidential information.
 3. Except as otherwise set forth in this contract, billing and payment will be in accordance with the conditions set forth in **Exhibit A**. Invoices are due and payable upon receipt and are delinquent only thirty (30) days after the date received by CITY. Each invoice shall set forth a general description of the work performed, in accordance with the scope of work, for the hours billed. CONSULTANT may complete such work as it deems necessary, after termination, except that such work will be at its own expense and there shall be no "termination charge" whatsoever to CITY.
 4. Any fee required by any governmental agency in order for CONSULTANT to accomplish a task hereunder shall be provided by CITY and is not included in the hourly fee.
 5. In the event any term or provision of this contract is held to be illegal or in conflict with any law of the United States or Arizona or any local law, the validity of the remaining provisions shall not be affected, and this contract shall be construed and enforced as if it did not contain the particular term or provision,
 6. OWNERSHIP OF DOCUMENTS. All documents, including, but not limited to,

correspondence, estimates, notes, recommendations, analyses, reports and studies that are prepared in the performance of this contract are to be, and shall remain, the property of CITY and are to be delivered to CITY before the final payment is made to the CONSULTANT.

7. PROFESSIONAL RESPONSIBILITY. CONSULTANT hereby represents that it is qualified to assume the responsibilities and render the services described herein and has all requisite corporate authority and professional licenses in good standing, required by law.
8. COMPLIANCE WITH LAW. It is contemplated that the work and services to be performed by CONSULTANT hereunder shall be done in compliance with applicable laws, ordinances, rules and regulations that are in effect on the date of this contract. Any subsequent changes in applicable laws, ordinances, rules or regulations that necessitate additional work shall constitute a change in the scope of work. It is unlawful for any business to operate if it is (1) physically located within the city limits, or (2) if it has an obligation to pay transaction privilege taxes (TPT) to the City of Sedona for the business it is conducting, without first having procured a current business license from the City and complying with any and all regulations of such business specified in the Sedona City Code, Sedona Land Development Code (LDC), and Arizona Revised Statutes except as exempted pursuant to SCC 5.05.025. Said compliance shall include but not be limited to compliance with any and all zoning ordinances and specified building uses. A business license is in addition to the privilege tax license required by Section 8-300 of the Sedona City Tax Code.
9. INDEMNIFICATION. To the fullest extent permitted by law, CONSULTANT shall indemnify and hold harmless CITY, and each council member, officer, employee or agent thereof (CITY and any such person being herein called an "Indemnified Party"), for, from and against any and all losses, claims, damages, liabilities, costs and expenses (including, but not limited to, reasonable attorneys' fees, court costs and the costs of appellate proceedings) to which any such Indemnified Party may become subject, under any theory of liability whatsoever ("Claims") to the extent that such Claims (or actions in respect thereof) are caused by the negligent acts, recklessness or intentional misconduct of CONSULTANT, its officers, employees, agents or any tier of subcontractor in connection with CONSULTANT'S work or services in the performance of this contract. The amount and type of insurance coverage requirements set forth below will in no way be construed as limiting the scope of the indemnity in this paragraph.
10. INSURANCE.
 - A. The CONSULTANT agrees to procure and maintain in force during the term of this contract, at its own cost, the following coverages as may be requested by CITY, either in the initial bid, or prior to commencement of particular tasks.
 1. Worker's Compensation Insurance as required by the Labor Code of the State of Arizona and Employers' Liability Insurance.
 2. Commercial General or Business Liability Insurance with minimum combined single limits of ONE MILLION DOLLARS (\$1,000,000.00) each occurrence and TWO MILLION DOLLARS (\$2,000,000.00) general aggregate.
 3. Automobile Liability Insurance with minimum combined single limits for bodily injury

and property damage of not less than ONE MILLION DOLLARS (\$1,000,000.00) for any one occurrence, with respect to each of the CONSULTANT'S owned, hired or non-owned automobiles assigned to or used in performance of the services. In the event that the CONSULTANT'S insurance does not cover non-owned automobiles, the requirements of this paragraph shall be met by each employee of CONSULTANT who uses an automobile in providing services to CITY under this contract.

4. Professional Liability coverage with minimum limits of FIVE HUNDRED THOUSAND DOLLARS (\$500,000.00) each claim and ONE MILLION DOLLARS (\$1,000,000.00) general aggregate. If approved by CITY, evidence of qualified self-insured status may be substituted for one or more of the foregoing insurance coverages.
 - B. CONSULTANT shall procure and maintain the minimum insurance coverages listed herein. Such coverages shall be procured and maintained with forms and insurers acceptable to CITY, acceptable of which shall not be unreasonably withheld. All coverages shall be continuously maintained to cover all liability, claims, demands and other obligations assumed by the CONSULTANT pursuant this contract. In the case of any claims made to the policy, the necessary retroactive dates and extended reporting periods shall be procured to maintain such continuous coverage.
 - C. A Certificate of Insurance shall be completed by the CONSULTANT'S insurance agent(s) as evidence that policies providing the required coverages, conditions and minimum limits are in full force and effect, and shall be subject to review and approval by CITY. The Certificate shall identify this contract and shall provide that the coverages afforded under the policies shall not be canceled, terminated or limits reduced until at least 30 days prior written notice has been given to CITY. The City shall be named as an additional insured. The completed Certificate of Insurance shall be sent to:

City of Sedona
102 Roadrunner Drive
Sedona, AZ 86336
ATTN: City Clerk
 - D. Failure on the part of CONSULTANT to procure or maintain policies providing the required coverages, conditions and minimum limits shall constitute a Material Breach of Contract upon which CITY may immediately terminate this contract or, at its discretion, CITY may procure or renew any such policy or any extended reporting period thereto and may pay any and all premiums in connection therewith, and all monies so paid by CITY shall be repaid by the CONSULTANT to CITY upon demand, or CITY may offset the cost of the premiums against any monies due to CONSULTANT from CITY.
 - E. CONSULTANT agrees to execute any and all documents necessary to allow CITY access to any endorsements pertaining to this particular job.
11. NON-ASSIGNABILITY. Neither this contract, nor any of the rights or obligations of the parties hereto, shall be assigned by either party without the written consent of the other.
 12. TERMINATION. This contract shall terminate at such time as the work in the scope of work is completed or upon CITY providing CONSULTANT with seven (7) days advance written notice, whichever occurs first. In the event the contract is terminated by CITY'S issuance of

said written Notice of Intent to Terminate, CITY shall pay CONSULTANT for all work previously authorized and performed prior to the date of termination. If, however, CONSULTANT has substantially or materially breached the standards and terms of this contract, CITY shall have any remedy or right of set-off available at law and equity. No other payments, including any payment for lost profit or business opportunity, and no penalty shall be owed by CITY to CONSULTANT in the event of termination upon notice.

13. VENUE. This contract shall be governed by the laws of the State of Arizona, and any legal action concerning the provisions hereof shall be brought in the County of Coconino, State of Arizona.
14. INDEPENDENT CONTRACTOR. CONSULTANT is an independent contractor. Notwithstanding any provision appearing in this contract, and any exhibits and/or addenda, all personnel assigned by CONSULTANT to perform work under the terms of this contract shall be, and remain at all times, employees or agents of CONSULTANT for all purposes. CONSULTANT shall make no representation that it is the employee of CITY for any purpose.
15. NO WAIVER. Delays in enforcement or the waiver of any one (1) or more defaults or breaches of this contract by CITY shall not constitute a waiver of any of the other terms or obligations of this contract.
16. ENTIRE AGREEMENT. This contract, together with the attached exhibits, is the entire agreement between CONSULTANT and CITY, superseding all prior oral or written communications. None of the provisions of this contract may be amended, modified or changed except by written amendment executed by both parties.
17. NON-DISCRIMINATION. CONSULTANT, its agents, employees, contractors and subcontractors shall not discriminate in any employment policy or practice. "Discrimination" means to exclude individuals from an opportunity or participation in any activity or to accord different or unequal treatment in the context of a similar situation to similarly situated individuals because of race, color, gender, gender identity, sexual orientation, religion, national origin or ancestry, marital status, familial status, age, disability, or Veteran status. (Ordinance 2015-10) (2015).
18. COMPLIANCE WITH FEDERAL AND STATE LAWS:
 - A. Under the provisions of A.R.S. § 41-4401, CONSULTANT hereby warrants to CITY that CONSULTANT and each of its subcontractors will comply with, and are contractually obligated to comply with, all Federal Immigration laws and regulations that relate to their employees and A.R.S. § 23-214(A) (hereinafter "Contractor Immigration Warranty").
 - B. A breach of the Contractor Immigration Warranty shall constitute a material breach of this contract and shall subject CONSULTANT to penalties up to and including termination of this contract at the sole discretion of CITY.
 - C. CITY retains the legal right to inspect the papers of any contractor or subcontractor employee who works on this contract to ensure that the contractor or subcontractor is complying with the Contractor Immigration Warranty. CONSULTANT agrees to assist CITY in regard to any such inspections.

- D. CITY may, at its sole discretion, conduct random verification of the employment records of CONSULTANT and any subcontractors to ensure compliance with the Contractor Immigration Warranty. CONSULTANT agrees to assist CITY in regard to any random verification performed.
- E. Neither CONSULTANT nor any subcontractor shall be deemed to have materially breached the Contractor Immigration Warranty if CONSULTANT or any subcontractor establishes that it has complied with the employment verification provisions prescribed by Sections 274A and 274B of the Federal Immigration and Nationality Act and the E-Verify requirements prescribed by A.R.S. § 23-214, Subsection A.
- F. The provisions of this article must be included in any contract that CONSULTANT enters into with any and all of its subcontractors who provide services under this contract or any subcontract. "Services" are defined as furnishing labor, time or effort in the State of Arizona by a contractor or subcontractor. Services include construction or maintenance of any structure, building or transportation facility or improvement to real property.
- G. CONSULTANT shall execute the required documentation and affidavit of lawful presence as set forth in ARS 1-502/8 USC § 1621 (**Exhibit B**).
- H. CONSULTANT understands and acknowledges the applicability to it of the Americans with Disabilities Act, the Immigration Reform and Control Act of 1986 and the Drug Free Workplace Act of 1989. The following is only applicable to construction contracts: CONSULTANT must also comply with A.R.S. § 34-301, "Employment of Aliens on Public Works Prohibited," and A.R.S. § 34-302, as amended, "Residence Requirements for Employees."
19. **DISPUTE RESOLUTION.** The parties agree in good faith to attempt to resolve amicably, without litigation, any dispute arising out of or relating to this contract. In the event that any dispute cannot be resolved through direct discussions, the parties agree to endeavor to settle the dispute by mediation. Either party may make a written demand for mediation, upon which demand the matter shall be submitted to a mediation firm mutually selected by the parties. The mediator shall hear the matter and provide an informal opinion and advise within twenty (20) days following written demand for mediation. Said informal opinion and advice shall not be binding on the parties, but shall be intended to help resolve the dispute. The mediator's fee shall be shared equally by the parties. If the dispute has not been resolved, the matter may then be submitted to the judicial system.
20. **DELAYS.** CONSULTANT shall not be responsible for delays which are due to causes beyond CONSULTANT'S reasonable control. In case of any such delay, any deadline established as part of the scope of work shall be extended accordingly.
21. **ATTORNEYS' FEES AND COSTS.** Should any legal action, including arbitration, be necessary to enforce any term of provision of this contract or to collect any portion of the amount payable hereunder, all expenses of such legal action or collection, including witness fees, costs of the proceedings and attorneys' fees, shall be awarded to the substantially prevailing party.
22. **CONFLICT OF INTEREST.** From the date of this contract through the termination of its

service to CITY, CONSULTANT shall not accept, negotiate or enter into any contract or agreements for services with any other party that may create a substantial interest, or the appearance of a substantial interest in conflict with the timely performance of the work or ultimate outcome of this contract and/or adversely impact the quality of the work under this contract without the express approval of the City Manager and the City Attorney. Whether such approval is granted shall be in the sole discretion of the City Manager and the City Attorney. The parties hereto acknowledge that this Contract is subject to cancellation pursuant to the provisions of ARS § 38-511.

23. NOTICE. Any notice or communication between CONSULTANT and CITY that may be required, or that may be given, under the terms of this contract shall be in writing, and shall be deemed to have been sufficiently given when directly presented or sent pre-paid, first class United States Mail, addressed as follows:

CITY: City of Sedona
Attn: City Manager or City Department Head
102 Roadrunner Drive
Sedona, AZ 86336

CONSULTANT: WSP USA Inc
Attn: Mark L. Yalung, PE Vice President/Arizona Area Manager
1230 W Washington, Suite 405
Tempe, AZ 85281

24. NOTICE TO PROCEED. Unless otherwise noted by CITY, acceptance of this contract is official notice to proceed with the work.

CITY OF SEDONA, ARIZONA

CONSULTANT FIRM NAME

City Manager

By: _____

Title: _____

ATTEST:

I hereby affirm that I am authorized to enter into and sign this contract on behalf of CONSULTANT

City Clerk

APPROVED AS TO LEGAL FORM:

City Attorney

EXHIBITS

Exhibit A

- Scope of Work and Associated Costs.

Exhibit B

- Affidavit of Lawful Presence as set forth in ARS 1-502/8 USC §1621.
- Affidavit of Lawful Presence not required as this consultant is a corporation (Inc., LLC, LLP).



EXHIBIT A

1230 W. Washington St. Ste 405
Tempe, Arizona 85281
wsp.com

September 05, 2019

Mr. Robert J. Welch, PE
City of Sedona
102 Roadrunner Drive
Sedona, AZ 86336

City of Sedona – SR 179 at Tlaquepaque
Pedestrian Crossing Final Design

Dear Mr. Welch,

WSP is pleased to submit the revised scope and fee to provide plans, specifications and an estimate for construction for the above referenced project. The scope of work is carried forward from the Feasibility Study we completed in June 2019.

Please let me know if you have any questions or require additional information. I am available at 480.449.7745 or via email at Stephen.Doubek@wsp.com.

Our entire team is looking forward to continuing work with you and the City of Sedona on this project.

Sincerely,

WSP Inc.

A handwritten signature in blue ink that reads "Stephen Doubek". The signature is fluid and cursive, with a long horizontal stroke extending to the right.

Stephen Doubek, PE
Project Manager

Cc: File

Project Scope

The scope of work for this project includes the preparation of plans, special provisions and estimate for the construction of a pedestrian crossing at SR 179, in the Tlaquepaque area of the City of Sedona. Final bid documents will be delivered to the City of Sedona for the advertisement of the project.

Project Description

In June 2019, WSP USA (WSP) completed a Feasibility Study for the City of Sedona that evaluated design constraints of improvements to the existing pedestrian crossing of SR 179 at Tlaquepaque. The recommended alternative, referred to in the report as *Alternative 3, Underpass at Oak Creek* proposed to construct a pathway under the existing SR 179 Oak Creek bridge, with ramps running parallel to SR 179 on each side of the roadway. This project will carry Alternative 3 forward through the final design phase.

The proposed improvements will include:

- § Construction of a concrete pathway under the Oak Creek Bridge that connects both the north and south sidewalks of SR 179.
- § Installation of pavement marking and signing related to the proposed path
- § Pedestrian channelization and signage along SR 179 in the area of the crossing
- § Pedestrian wayfinding signage and pavement marking
- § Enhanced landscaping in the project area

Standards and Procedures

All work will be done in accordance with the following standards:

- § Maricopa Association of Governments (MAG) Uniform Standard Specifications and Details for Public Works Construction, 2019 Revision to the 2015 Editions
- § American Association of State Highway and Transportation Officials (AASHTO) Roadside Design Guide, 2011; A Policy on Geometric Design of Highways and Streets, 2011; Guide for the Planning, Design and Operation of Pedestrian Facilities, 2004, (AASHTO Pedestrian Guide); Guide for the Development of Bicycle Facilities 2012, Fourth Edition (AASHTO Bike Guide)
- § Manual on Uniform Traffic Control Devices (MUTCD), 2009

City of Sedona - Project Number: XXXXXXXX
SR 179 at Tlaquepaque Pedestrian Crossing Final Design
Scope of Services

- § Americans with Disabilities Act Accessibility Guidelines Title I and II, 2010
- § Proposed Public Rights-of-Way Accessibility Guidelines (PROWAG), 2011

All drawings submitted to the City will be provided in AutoCAD format.

Detailed Scope of Services

Task 1 - Data Collection

WSP will collect and review project information. The following information will be provided by the City or ADOT:

- § City utility facility maps
- § As-built drawings of existing roadway and/or utilities (WSP will utilize ADOT Roads System for additional ADOT as-builts)
- § Engineering studies, master plans and reports completed in the project vicinity
- § Current City construction project data
- § Plans and other data for proposed projects in the area
- § Right-of-way maps and plats within the project area

One (1) general site visit will be performed by three (3) WSP staff, accompanied by City representatives if desired, to confirm observable existing conditions.

Task 1 – Deliverables

- § Site visit notes

Task 1 - Assumptions

- § None

Task 2 - Control, Field Survey, Utility Designate and Base Mapping

Topographic Survey

Shephard Wesnitzer (SWI)'s proposed fee is based on providing surveying services and design level base mapping for the project. The survey will be the basis of the design for the WSP Team by providing ground based topographic survey, base mapping and right-of-way documentation. See the attached SWI scope of services for additional information.

City of Sedona - Project Number: XXXXXXXX
 SR 179 at Tlaquepaque Pedestrian Crossing Final Design
 Scope of Services

Utility Designate and Potholes (Allowance Item)

Utility designate at quality levels C and D per ASCE 38. The team will utilize the CI/ASCE 38 standard for collecting and depicting the existing utilities and build the highest quality utility map possible. See attached Cardno scope of services for additional information.

Task 2 - Assumptions

- § Establishment of survey monumentation or boundary surveys will be performed. Sufficient boundary monumentation necessary to relate the record boundary to the topographic survey exists on subject parcels.
- § It is also assumed that available survey controls and other features or information are accurate. If survey problems, including erroneous monumentation, overlapping or defective deeds, or discrepancies between record title dimensions and actual field conditions or occupation are identified the Client will be notified of any such circumstances.
- § SWI surveyors will have full unrestricted access to the Site.
- § No utility test holes are anticipated to be located within asphalt pavement, concrete, or sidewalk.
- § Dry utility test holes over QL D or C utilities will be billed at a rate equal to 75% of the test hole rate. Extra wide test holes (larger than 18 inches in width) will be billed at 150% of the test hole rate.
- § Utility Test Holes in which two utilities are found at a separation of more than 18" on center will be billed as two separate test holes. Test Holes which are requested at locations of the crossing of two utilities will be billed as two separate test holes.

Task 2 - Deliverables

- § SWI deliverables will consist of a CADD file for use as Base Mapping, client directed legal descriptions, client directed Record of Survey, and a sealed control sheet.
- § Cardno deliverables will include QC D & C utility mapping in an ASCE 38-02 plan set (pdf) sealed by a Registered Professional Engineer as well as providing the mapping in electronic CADD. Pertinent QLA utility test hole data will be presented in scanned electronic format on our standard "Test Hole Data Summary" and individual "Test Hole Data Report" forms sealed by an Arizona Registered Professional (licensed with the AZ Board of Technical Registration) that includes the depth, horizontal coordinates, vertical elevation, size and material composition of the utility line exposed at each test hole.

Task 3 – Right-of-Way Base Mapping and Right-of-Way Documentation

Right-of-Way Base File – SWI will prepare a right of way sheet showing ties to section and quarter section monuments and identify the existing right-of-way limits. The number of right-of-way takes is unknown at this time, but an allowance for up to 3 legal descriptions and exhibits (per City templates) is included to assist the City in any acquisition efforts as may be required. A Results of Survey Map will be prepared for existing right-of-way. In the case of parcel acquisitions for right-of-way, the Results of Survey Map will be modified into a Record of Survey Map for recording with the County. In the case of parcel acquisitions the boundary of each parent parcel will be surveyed and new property corners will be set at each of the intersecting points of the new right-of-way with the subject parent parcel side lines. See the attached SWI scope of services for additional information.

Task 3 - Assumptions

- § A maximum of 3 legal descriptions and exhibits (new Right-of-Way or TCEs) will be prepared.
- § Right-of-Way will be acquired by the City. Title Reports, appraisals and negotiations will be produced/conducted by the City.
- § The City will supply the title reports for acquisition parent parcels.
- § New property corners will be set per Board of Technical Registration Code and Rules.
- § No right-of-way plans will be produced for this project.

Task 3 - Deliverables

- § Electronic files in AutoCAD Civil 3D format containing the above information will be provided to WSP.
- § Legal descriptions and exhibits for temporary construction easement, roadway easement and new Right- of-Way information.
- § Results of Survey map of existing Right-of-Way sealed by AZ RLS.
- § Record of Survey suitable for official recording.

Task 4 - Final Design Plans, Specs and Estimate (60%, 90%, 100%, Sealed)

The project design will be submitted to the City for review at the 60% and 90% stages. The 100% submittal will be submitted for verification that all previous comments have been addressed (back check). Upon approval of the 100% submittal by the City, WSP will submit the sealed final package.

City of Sedona - Project Number: XXXXXXXX
SR 179 at Tlaquepaque Pedestrian Crossing Final Design
Scope of Services

The following design elements will be prepared and submitted for approval and final acceptance for construction advertisement. All CAD deliverables will be in the AutoCAD software and utilize City of Sedona border and cover sheet files provided by the City.

4a) Roadway Design:

WSP will establish design criteria for review and approval by Sedona to be used as the basis of design for the project prior to proceeding with the 60% design.

WSP shall develop plans for the pedestrian underpass to incorporate the path improvements. The pathway design plans shall include typical sections, details, plan and profile sheets.

Plans sheets and profile sheets will be prepared using a horizontal scale of 1" = 40' and vertical scale of 1" = 2'. Detail sheets will be prepared at a horizontal scale of 1" = 20' scale.

Locations of existing and new underground facilities/ utilities shall be shown on plan and profile drawings. Existing utilities will be shown per the results of Cardno utility designation efforts, where potholing is not performed. Depths of the utilities will be shown where pothole data is provided. The disposition of above ground utilities will be called out on the path plans.

Cross sections are not considered part of the official construction documents and will be utilized for earthwork purposes only. Earthwork will be submitted at the 60%, 90% and 100% plans submittals. Cross Sections will not be sealed by a registered engineer.

4b) Drainage Design (by JE Fuller):

Flood Warning System (Allowance)

If requested and directed by the client, a flood warning system will be designed and specified to include a warning sign with flashing lights and an audible warning at both sides of SR 179. No work will proceed unless directed by the Client. The design will also include an automatic gate that would close to inhibit pedestrian access to the underpass during periods with a high risk of high flows in Oak Creek. It is recommended that the design of each unit be powered via battery and solar recharge panel for operation in the event of power failure. The system would be comprised of a Base Control Station that would be connected through a cellular

City of Sedona - Project Number: XXXXXXXX
 SR 179 at Tlaquepaque Pedestrian Crossing Final Design
 Scope of Services

network or similar method to the National Weather Service Flood Forecasting center, USGS, Yavapai County's ALERT system, etc. and could trigger light and audible warnings and activate the gate based on redundant programmed thresholds. These may include area Flash Flood warning, rain gauge data, Stream Stage or Discharge data measured upstream at the Pump House Wash stream gauge or the West Fork Oak Creek stream gauge, or a rapid rise rate at the USGS Oak Creek Gauge. The system would be controlled and monitored by either the City of Sedona or Yavapai County FCD. The owner would have the ability to manually trigger the warnings/gate remotely or on site. The primary elements of the flood warning design system consists of researching equipment options from vendors such as High Sierra and obtaining and developing specifications and design configurations.

Hydraulic and Erosion Protection Analysis

JE Fuller will utilize the HEC-RAS hydraulic model prepared for the recent Oak Creek Floodplain Delineation Study as the base model for design. Anticipated improvements include the pedestrian underpass, modifications to existing erosion protection and minor channelization for compensatory conveyance. The hydraulic design will be in accordance with City of Sedona, Yavapai County and ADOT standards. It is anticipated that the proposed improvements will need to be designed to maintain the existing conditions hydraulics through the bridge and/or to hold the estimated hydraulic conditions to the original design level of the existing SR 179 bridge over Oak Creek. JE Fuller will conduct scour and sediment analysis if needed. JE Fuller will identify existing erosion protection to be removed or replaced due to the proposed pedestrian underpass. Results will be summarized in the Drainage Design Memo detailed below.

Construction Plan Preparation

JE Fuller will prepare CAD design drawings for the drainage related proposed improvements for the project. Anticipated design plan submittals are at 60%, 90%, 100% and Final sealed. Engineer estimates of probable construction cost will be included with each submittal.

The following is a list of anticipated sheets related to the drainage elements for the project:

- § 2 Erosion Protection Plan Sheets
- § 1 Channelization Plan Sheet
- § 1 Erosion Protection Details Sheet
- § 1 Flood Warning Plan Sheet (Allowance)

City of Sedona - Project Number: XXXXXXXX
SR 179 at Tlaquepaque Pedestrian Crossing Final Design
Scope of Services

§ 2 Flood Warning Details Sheet (Allowance)

Design Memo

JE Fuller will prepare a Drainage Design Memo for inclusion in the Design Report prepared by others. It is anticipated that the first draft submittal will coincide with the 60% plan submittal to the City. The memo will document the drainage design, erosion protection and flood warning system design. The Memo will be finalized and delivered with the Final Construction Document submittal.

See the attached JE Fuller scope of services for additional information.

4c) Traffic - Signing and Marking Plans:

WSP will design wayfinding signage and applicable other signing and marking to ensure the proposed pathway meets the Manual of Uniform Traffic Control Devices (2009) and appropriate ADOT Signing and Marking Standards. Static signage will also be designed to supplement the Flood Warning System if implemented. All signing and pavement marking will be shown on plan sheets with a horizontal scale of 1"=40'. No additional signing and marking on SR 179 that is not directly related to the pedestrian crossing will be completed as part of this scope. Signing and Marking plans will be provided at the 90% and 100% submittals.

Pathway lighting will be completed along the length of the pedestrian path using current AASHTO standards. A lighting analysis will be completed using AGI32 to evaluate light levels along the path. Light spill will not be analyzed. It is assumed the lighting system design is not water proof and will require periodic maintenance when flood events impact the light fixtures/conduit. The lighting system design will limit exposure to inundation during weather events. Lighting plan sheets with a horizontal scale of 1"=40' will be completed for the 90% and 100% submittals.

4d) Landscaping and Irrigation Plans (Corral Design Group (CDG)):

The scope of these services includes providing Conceptual and Final Landscape Architectural services for the City of Sedona on the above referenced project. The services include development of 60%, 90%, 100% (back check) and Final Sealed plans specifications, photorealistic renderings and preparation of an Engineers Opinion of Probable Costs and final bid documents.

City of Sedona - Project Number: XXXXXXXX
SR 179 at Tlaquepaque Pedestrian Crossing Final Design
Scope of Services

Wall Rustication Concepts and Coordination with Artist

During the conceptual design process, CDG will work in coordination with the City and their selected artist on wall rustication and safety handrail aesthetic concepts. CDG will incorporate the Artist concepts into the preliminary and final design plans as directed by City.

60%, 90%, 100% and Final Sealed Construction Documents

Upon approval of the conceptual design and Artistic concepts, CDG will develop hardscape/aesthetic, landscape and irrigation plans at each of the referenced design submittal stages. Artistic concepts are assumed to be finalized and available for inclusion into the project plans beginning with the 60% design submittal. For landscape irrigation, it is assumed that water service points of connection will be identified by the City and electrical service for controllers will be coordinated with the Local Utility provider. CDG will also include an Engineers estimate of probable costs and project specifications with each of the referenced design submittals.

See the attached CDG scope of services for additional information.

4e) Structure/Wall Design:

WSP shall develop plans for the pedestrian underpass retaining walls, SR 179 channelization walls and modifications necessary to the existing infrastructure to incorporate the path improvements. Where applicable, Standard ADOT detail walls will be utilized. Where geometric and right-of-way constraints exist, custom wall designs will be performed. Cut-wall (soil nail, soldier pile wall, etc.) plan locations and minimum heights will be detailed, but the design will be responsibility of the Contractor. Structural design scope excludes the evaluation of the existing Oak Creek bridges and exposure of foundations. Structural design and detailing of the pedestrian railing will also be performed. The structural design plans shall include retaining wall plans, elevations and detail sheets.

Retaining wall plan sheets and profile sheets will be prepared using a vertical and horizontal scale of 1" = 10'.

Structural plans will be provided at the 60%, 90% and 100% submittals.

City of Sedona - Project Number: XXXXXXXX
 SR 179 at Tlaquepaque Pedestrian Crossing Final Design
 Scope of Services

Task 4 - Assumptions:

- § It is assumed that the design concept shown in the Feasibility Report referred to as Alternative 3 is the only design concept to be included as part of this project. No additional alternatives or any additional analysis of alternatives will be conducted. No Scoping phase and its associated public and agency involvement will be performed as part of this project.
- § No ADA compliance analysis of existing facilities will be performed as part of this project.
- § No design or space planning for staircases or elevators will be performed as part of this project.
- § Path will utilize a 10-ft width that includes the handrail width.
- § Path will utilize a 10-ft minimum vertical clearance
- § Path design will tie-in to the existing SR 179 curb and sidewalk at the locations depicted in Alternative 3 of the Feasibility Report. This design will not address the future widening of SR 179.
- § No traffic signal design will be performed as part of this project.

Task 4 - Deliverables:

- § See Task 5 and Project Deliverables.

5) Special Provisions & Engineer's Opinion of Probable Construction Cost

Technical product specifications will be produced in accordance with the City-provided boiler plate document and City details. Technical product specifications will be prepared for items not adequately addressed by the standard specifications referenced above. These technical product specifications will be incorporated into the bid documents as part of the special provisions.

Opinions of probable construction cost will be prepared using standard unit costs and item descriptions.

WSP will provide detailed special provisions and a construction cost estimate with the 60%, 90%, 100% and Sealed submittals in a format matching the Sample provided by the City. The Contract Documents will include City of Sedona General Conditions, as outlined by the sample Contract Documents provided to WSP in July 2019, as well as project-specific special provisions.

City of Sedona - Project Number: XXXXXXXX
SR 179 at Tlaquepaque Pedestrian Crossing Final Design
Scope of Services

Task 5 - Assumptions

- § Submittals will be made to the City's Project Manager for internal distribution
- § Three-week review periods for City staff.
- § A comment resolution meeting will be conducted following each review period.
- § Comments emerging from this comment resolution meeting will be assigned a disposition and resolved with each subsequent submittal.
- § A written summary of the comments and how they were resolved will be included with each subsequent submittal.
- § 100% submittal is not for review but for limited distribution to verify that comments provided on the 90% submittal were addressed. No new comments will be provided.

Task 5 - Deliverables

- § 60%, 90%, 100% Submittals and the Sealed submittal. All project submittals/deliverables will be delivered in electronic (PDF) format.

Task 6 - Geotechnical Design

Due to access constraints, new geotechnical borings will not be performed for the project. However, geotechnical design will rely on existing subsurface information provided on record drawings for the existing bridges, since they are located immediately adjacent to the proposed pathway. The geotechnical scope of services includes the following:

- § Project Setup and Background Review: Setup the project and review available geologic and geotechnical information in the immediate vicinity of the project, including record drawings of the existing bridges.
- § Site Reconnaissance: A geologic/geotechnical site reconnaissance will be performed to observe the existing topographic and geologic features at the site.
- § Geotechnical Design Report: WSP will prepare an engineering report to summarize the results of our geotechnical engineering evaluation. It is anticipated that the first draft submittal will coincide with the 60% plan submittal to the City and the Final at the 100% plan submittal. The information obtained from our review of available subsurface information will be used to develop design and construction recommendations for the project.

City of Sedona - Project Number: XXXXXXXX
SR 179 at Tlaquepaque Pedestrian Crossing Final Design
Scope of Services

The following information will be provided in the geotechnical report:

- § A summary of our background review, including description of our geotechnical design profile used for the planned project improvements;
- § Geotechnical recommendations for the planned improvements, including earthwork, retaining walls and foundations.

Task 6 - Assumptions

- § A geotechnical exploration with associated laboratory testing will not be performed. It is assumed that existing subsurface information provided in record drawings can be used to develop geotechnical design recommendations. Based on site location and pre-existing information, it is assumed that the site is underlain by a shallow bedrock profile with a cover of coarse grained river channel alluvium. The depth to rock and rock quality assumptions to be used in the design report will require confirmation during construction through inspections of the excavations by the geotechnical engineer/geologist of record. If conditions locally vary from the assumptions made during design, modifications in the depth of the excavations to reach acceptable foundation conditions may be required.

Task 6 - Deliverables

- § Geotechnical Report (Draft and Final)

Task 7 - Environmental and Permitting (By JE Fuller)

Environmental permitting is excluded from the scope of services, specifically Clean Water Act 404/401 permitting. The following scope assumes that proposed improvements will not fall within the jurisdictional waters of the US associated with Oak Creek. If determined to be required a contract modification will be submitted to prepare a Nationwide Permit or an Individual 404 Permit.

In accordance with the U.S. Army Corps of Engineers guidance criteria, the Consultant will research and conduct an aerial review of potentially jurisdictional waters on the site. A limited field survey of identified potentially jurisdictional and non-potentially jurisdictional waters will be completed and documented using 1:200 scale aerial maps. This task also includes review of available prior studies at the local Corps office. A preliminary Jurisdictional Delineation will be prepared to confirm that no permitting is necessary.

City of Sedona - Project Number: XXXXXXXX
 SR 179 at Tlaquepaque Pedestrian Crossing Final Design
 Scope of Services

Task 8 - Utility Base Mapping, Design and Coordination

WSP will coordinate with utility companies, private development and the City to incorporate existing and proposed utilities into the construction plans, in accordance with the latest version of the Arizona Utility Coordinating Committee "Public Improvement Project Guide" (PIPG).

WSP will show all identified existing and proposed utilities on the pathway plan and profile sheets.

Up to two (2) utility coordination meetings will be held as needed and attended by two (2) WSP staff.

In addition to the above, WSP will:

- § Submit 60% and 90% design plans to each utility reporting facilities in the project vicinity for conflict review. Sealed submittals will be provided for informational purposes only.
- § Provide the City with copies of the utility conflict/no-conflict review responses.
- § Identify potential utility conflicts based on the conflict reviews and pothole data
- § At the 60% stage, identify underground utilities to be potholed based on the potential conflicts with the proposed improvements
- § Coordinate with the utility companies for relocation design and meet to facilitate relocation design.
- § Review the relocation design for conformance with the proposed design.
- § Prepare a Utility Clearance Letter.
- § Potholing will be performed for this project by Subconsultant Cardno. For the purposes of preparing the proposal, it is assumed that a maximum of 5 Potholes will be prepared. The cost associated with the potholes will be designated as an **Allowance** in this fee proposal.

Task 8 - Assumptions

- § The preparation of any relocation plans for any impacted utilities, including any of the City of Sedona's utilities by WSP is excluded from the scope of work.
- § No utility report will be prepared for this project.

City of Sedona - Project Number: XXXXXXXX
 SR 179 at Tlaquepaque Pedestrian Crossing Final Design
 Scope of Services

Task 8 - Deliverables

- § Utility Clearance letter

Task 9 - Public Involvement

The public involvement activities will be led by the City. It is anticipated that one (1) public meeting will be held in the City to discuss the project with residents and stakeholders. One (1) additional public meeting has been included as an allowance item if the City requests it. These meetings will be scheduled during the design phase. WSP shall generate up to 3-graphic displays boards of the project for each meeting.

As an **Allowance** item, CDG may develop up to three (3) photorealistic color renderings in PDF format. All work associate with these rendering will be done as requested by the City utilizing the associated project allowance. The renderings will depict the proposed visual impact of the pedestrian underpass in relation to the surrounding environment. Once the viewpoint locations have been agreed upon, the renderings will be prepared and finalized.

Task 9 - Assumptions

- § The City will be responsible for securing a time and location for the meetings and advertising the meetings to the public.
- § The City will be responsible for obtaining any needed equipment (ex. public address system) for meetings to the public.
- § The City will be responsible for generating and producing meeting materials such as PowerPoint presentations, sign-in sheets, pamphlets/handouts, etc.
- § The City will field and distribute all citizen inquiries and comments regarding the project.
- § One (1) public meeting is anticipated. One (1) additional public meeting is included as an allowance item.

Task 9 - Deliverables

- § Meeting graphical displays (up to three [3] boards per meeting), 22"x34"
- § Attendance at the meeting by 2-WSP staff
- § If requested, up to three (3) photorealistic renderings in PDF format

City of Sedona - Project Number: XXXXXXXX
 SR 179 at Tlaquepaque Pedestrian Crossing Final Design
 Scope of Services

Task 10 - Project Management and Coordination

WSP's Project Manager will be knowledgeable of the project and have responsible charge of the progress of each phase of the project. The Project Manager will be the point of contact for the City and will keep the City informed of Coordination with outside agencies and other affected stakeholders. The Project Manager will be responsible for administrative, technical direction of the work, scheduling and budgetary oversight for the project as well as Coordination and reporting with the City's Project Manager. Project administration tasks also include preparation of monthly invoices, comment assembly and resolution and QAQC.

WSP will prepare meeting agendas and minutes to be distributed electronically. A copy of the agendas and minutes will be provided to the City Project Manager and the City Project Manager will distribute to the project team, unless other guidance is provided by the City Project Manager. Meeting minutes will be sent within 10 business days. Agendas will be sent out 2 business days before the meeting.

Constructability reviews will be done by WSP construction administration staff on the 60%, 90% and final plans. The purpose of the reviews is to assure the proposed design identifies potential construction conflicts/issues.

The following meetings are anticipated to be held with the City:

- § Project KOM (attendance by 2 WSP staff)
- § Project Progress Meetings (Monthly: Assume 3 meetings, attendance by 2 WSP staff)
- § 60% Comment Review Meeting (attendance by up to 3 WSP staff)
- § 90% Comment Review Meeting (attendance by up to 3 WSP staff)
- § Miscellaneous Design Meetings (Assume 2 meetings, attendance by up to 2 WSP staff)
- § Utility Meetings (Assume 2 meetings, attendance by up to 2 WSP staff)
- § Miscellaneous Stakeholder/Agency Meetings (Assume 2 meetings, attendance by up to 2 WSP staff)
- § Public Meetings (Assume 2 meetings, attendance by up to 2 WSP staff)
(See Task 9)

Task 10 - Deliverables

- § Meeting agendas and notes
- § Initial Schedule and updates

City of Sedona - Project Number: XXXXXXXX
 SR 179 at Tlaquepaque Pedestrian Crossing Final Design
 Scope of Services

- § Quality Control review on deliverables
- § Monthly invoices

Task 11 - Environmental

Environmental desktop and field investigations will be conducted and documentation will be prepared to provide the City with a summary of potential mitigations needed for the Oak Creek area during construction. As this project is fully funded by the City of Sedona, the documentation is not required to follow the National Environmental Policy Act (NEPA) or ADOT environmental guidelines. Final documentation will be provided by a Biological Evaluation Memorandum.

Coordination with the US Fish and Wildlife and Arizona Game and Fish Department will be conducted to determine the presence of any endangered species.

Task 11 – Assumptions

- § No wetland/riparian areas evaluation will be conducted
- § No Section 401/404 field survey will be conducted (See JE Fuller scope of services)
- § No Section 408 analysis and clearance will be completed
- § No cultural resource investigation will be conducted
- § No Section 4(f) analysis will be conducted
- § No hazardous materials evaluation will be conducted
- § No noise analysis will be conducted
- § No air quality analysis will be conducted
- § No public/agency scoping will be conducted
- § The City of Sedona will complete and obtain the Floodplain Permit

Task 11 – Deliverables

- § Biological Evaluation Memo

Task 12 - Bidding Assistance (Post Design Services - Not included)

WSP will assist the City in the bidding phase of the project. The work includes such activities as attending the pre-bid meeting with Contractors, answering questions about the design for Contractors (pre-contract RFIs), clarifying the design intent and plans and assisting the City in addenda preparation prior to award of construction contract.

City of Sedona - Project Number: XXXXXXXX
SR 179 at Tlaquepaque Pedestrian Crossing Final Design
Scope of Services

Post Design services are not included and will be performed as requested by contract modifications. These services include effort after construction contract award, such as assisting with RFI response (post-contract RFIs) and shop drawing review, attending construction meetings and as-built preparation.

Task 12 - Assumptions

- § It is assumed that up to two (2) addenda may be prepared during the advertisement period.
- § Post Design Services including as-builting will be performed via contract modification to be added at the discretion of the City.
- § Final bid documents will be packaged as one project solicitation. The development of multiple bid packages, if needed, will be incorporated via contract modification.

Project Allowances

The work task section is followed by a listing “City Allowance Items”. The Consultant shall obtain written approval from the City Project Manager prior to expending allowance item funds.

Potholes: Performance of potholes (by Subconsultant Cardno) for the project (noted under Task 8).

Photorealistic Rendering: CDG may develop up to three (3) photorealistic renderings in PDF format (noted under Task 9).

Legal Descriptions: The number of right-of-way takes is unknown but an allowance for up to 3 legal descriptions and exhibits (per City templates) is included to assist the City in any acquisition efforts as may be required (noted under Task 3).

Warning System: Design of a flood warning system to dynamically alert pathway users during significant weather conditions to cross the proposed path and should use the at-grade crossing. Details of this system are provided in Task 4b.

Additional Public Meeting: One (1) public meeting is included within the scope. This item is one (1) additional public meeting if requested by the City.

City of Sedona - Project Number: XXXXXXXX
 SR 179 at Tlaquepaque Pedestrian Crossing Final Design
 Scope of Services

Project Schedule

Prior to commencing any design work, WSP’s Project Manager and the City’s Project Manager will meet to determine the project schedule. It is assumed the project schedule shall be 12 months from NTP.

This project is programmed for construction in FY 2021. WSP shall provide a preliminary project schedule and monthly updates to be discussed at monthly progress meetings.

The following tentative schedule is proposed for the project:

| Milestone | Schedule (Estimated) |
|---|---|
| NTP | September 2019 |
| Survey Complete | 6 weeks after NTP |
| 60% submittal (PS&E) | 10 weeks after survey complete |
| 90% submittal (PS&E) | 8 weeks after 60% Comment Resolution Meeting |
| 100% Submittal (PS&E) (back check only) | 4 weeks after 90% Comment Resolution Meeting |
| Sealed Submittal (PS&E) | 2 weeks after 100% Review is completed by City PM |

Project Deliverables

The following submittals will be made:

| | |
|--|-------|
| 60% Submittal (plans, specs, estimate) | 1 pdf |
| 90% Submittal and Reports | 1 pdf |
| 100% Submittal and Reports | 1 pdf |
| Sealed Submittal | 1 pdf |

Exclusions

The following items are excluded from this scope of services:

- | | |
|---|--|
| § Traffic Control/Maintenance of traffic design plans | § 404 Permitting |
| § SWPPP | § Items noted within description of tasks above. |
| § Traffic Analysis and Reports | |
| § ADA compliance Analysis and Reports | |



DERIVATION OF COST PROPOSAL SUMMARY

ESTIMATED DIRECT LABOR

| Classification | Manhours | Hourly Rate | Estimated Direct Labor |
|-------------------------|-------------|-------------|------------------------|
| Project Principal | 0 | \$90.65 | \$0 |
| Project Manager | 201 | \$75.73 | \$15,222 |
| Resident Engineer | 32 | \$81.70 | \$2,614 |
| Senior Project Engineer | 183 | \$64.36 | \$11,778 |
| Project Engineer | 295 | \$51.01 | \$15,048 |
| Engineer | 151 | \$41.14 | \$6,212 |
| Designer | 610 | \$31.44 | \$19,178 |
| CADD Technician | 158 | \$39.12 | \$6,181 |
| Admin Support | 14 | \$39.24 | \$549 |
| TOTAL Hours | 1644 | | |

| | | |
|------------------------------|---------|--------------|
| Total Estimated Labor: | | \$76,782 |
| Negotiated Overhead @ | 134.60% | \$103,348.57 |
| Facilities Cost of Capital @ | 0.40% | \$307.13 |

Sub-Total Direct Labor \$180,437.70

ESTIMATED DIRECT EXPENSES

| | |
|----------------------|---------|
| Outside reproduction | \$357 |
| Travel | \$1,655 |

Total Estimated Expenses: \$2,012

ESTIMATED OUTSIDE SERVICES AND CONSULTANTS

| | |
|--------------------------------|---|
| JE Fuller (Drainage) | \$ 42,380.16 |
| SWI (Survey/RW) | \$ 10,900 (Legal Desc. Under Allowance) |
| Cardno (Utility Designate) | \$ 12,505 (Potholes Under Allowance) |
| CDG (Landscape and Irrigation) | \$ 30,851 (Rendering Under Allowance) |

Total Estimated Outside Services Expense: \$96,636.16

Total Estimated Cost to Consultant: \$279,086.26
 Net Fee (10% of Sub-Total Direct Labor) \$18,013.06

CITY ALLOWANCE ITEMS

| | |
|-----------------------------------|------------------|
| WSP (1 additional public meeting) | \$ 1,114 |
| Cardno - QL-A & Potholes | \$ 9,500 |
| CDG - Rendering | \$ 6,621 |
| SWI - Legal Descriptions | \$ 8,700 |
| JE Fuller - Warning System | \$ 12,028 |
| Allowance Total | \$ 36,849 |

ESTIMATED COST W/O ALLOWANCES: \$297,099

TOTAL ESTIMATED COST W/ ALLOWANCES: \$333,948



 Signature

9/5/19

 Date

MAN HOURS BY TASK

| | Project Principal | Project Manager | Resident Engineer | Senior Project Engineer | Project Engineer | Engineer | Designer | CADD Technician | Admin Support | |
|---------------------------------------|-------------------|-----------------|-------------------|-------------------------|------------------|------------|------------|-----------------|---------------|-------------|
| 1 - Data Collection | 0 | 8 | 0 | 0 | 0 | 0 | 24 | 0 | 0 | 32 |
| 2 - Survey, Base Mapping | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 4 |
| 3 - ROW | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 4 |
| 4 - 30%, 60%, 90% Final Design | 0 | 0 | 0 | 12 | 79 | 37 | 266 | 146 | 0 | 540 |
| 5 - Specs and Estimate | 0 | 54 | 0 | 14 | 24 | 4 | 0 | 0 | 0 | 96 |
| 6 - Geotech and Pavement | 0 | 34 | 0 | 87 | 108 | 0 | 0 | 4 | 6 | 239 |
| 7 - Structures | 0 | 0 | 0 | 8 | 36 | 0 | 160 | 0 | 0 | 204 |
| 8 - Utility Coordination | 0 | 4 | 0 | 0 | 4 | 28 | 48 | 8 | 0 | 92 |
| 9 - Public Involvement | 0 | 11 | 0 | 0 | 0 | 26 | 20 | 0 | 0 | 57 |
| 10 - Project Management | 0 | 70 | 32 | 62 | 40 | 32 | 32 | 0 | 8 | 276 |
| 11-Environmental | 0 | 4 | 0 | 0 | 0 | 0 | 56 | 0 | 0 | 60 |
| 12 - Bidding Assistance | 0 | 16 | 0 | 0 | 0 | 24 | 0 | 0 | 0 | 40 |
| | 0 | 201 | 32 | 183 | 295 | 151 | 610 | 158 | 14 | 1644 |

| Task 1 - Data Research and Collection | Sh Cnt. | Project Principal | Project Manager | Resident Engineer | Senior Project Engineer | Project Engineer | Engineer | Designer | CADD Technician | Admin Support | Totals | Hr Check | Hrs/sht | Assumptions |
|--|---------|-------------------|-----------------|-------------------|-------------------------|------------------|----------|----------|-----------------|---------------|--------|----------|---------|--------------------------------|
| Obtain quarter-section maps, as-builts, reports, and similar information from the City | | | | | | | | 8 | | | 8 | | | |
| Site visit | | | 8 | | | | | 16 | | | 24 | | | PM plus traffic, roadway leads |
| TASK 1 TOTALS | | 0 | 8 | 0 | 0 | | 0 | 24 | 0 | 0 | 32 | | | |

| TASK 2 - Control, Topo Mapping, R/W Base | Sh Cnt | Project Principal | Project Manager | Resident Engineer | Senior Project Engineer | Project Engineer | Engineer | Designer | CADD Technician | Admin Support | Totals | Hr Check | Hrs/sht | Assumptions |
|--|----------|-------------------|-----------------|-------------------|-------------------------|------------------|----------|----------|-----------------|---------------|----------|----------|---------|-------------|
| Topographic Base Mapping | | | | | | | | | | | | | | By SWI |
| Review topographic base mapping and survey notebooks | | | | | | | | 2 | | | 2 | | | |
| Right-of-way Base Mapping | | | | | | | | | | | | | | |
| Review ROW files | | | | | | | | 2 | | | 2 | | | By SWI |
| Task 2 Total | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 4 | | | |

| TASK 3 - RW Base and Documentation | Sh Cnt | Project Principal | Project Manager | Resident Engineer | Senior Project Engineer | Project Engineer | Engineer | Designer | CADD Technician | Admin Support | Totals | Hr Check | Hrs/sht | Assumptions |
|--|----------|-------------------|-----------------|-------------------|-------------------------|------------------|----------|----------|-----------------|---------------|----------|----------|---------|---------------------|
| Review legal descriptions and exhibits by Cooper | | | | | | 4 | | | | | 4 | | | Descriptions by SWI |
| Task 3 Total | 0 | 0 | 0 | 0 | 0 | 4 | | 0 | 0 | 0 | 4 | | | |

| Task 4a - Roadway Design | Sh Cnt. | Project Principal | Project Manager | Resident Engineer | Senior Project Engineer | Project Engineer | Engineer | Designer | CADD Technician | Admin Support | Totals | Hr Check | Hrs/sht | Assumptions |
|---|---------|-------------------|-----------------|-------------------|-------------------------|------------------|-----------|------------|-----------------|---------------|------------|----------|---------|---|
| 60%, 90% and 100% (back check) Design Submittals | | | | | | | | | | | | | | |
| Face Sheet | 1 | | | | | | | 2 | 2 | | 4 | | 4.0 | |
| General Notes Sheet | 2 | | | | | | | 4 | 8 | | 12 | | 6.0 | |
| Index Sheet | 1 | | | | | | | 4 | 4 | | 8 | | 8.0 | |
| Quantity Summary Sheets | 1 | | | | | | | 4 | 8 | | 12 | | 12.0 | |
| Typical Section Sheet | 2 | | | | | | 2 | 8 | 4 | | 14 | | 7.0 | |
| Geometric Control Sheet | 1 | | | | | | 2 | 4 | 6 | | 12 | | 12.0 | |
| Detail sheets (Assume 3 sheets) | 3 | | | | | 2 | 4 | 32 | 20 | | 58 | | 19.3 | |
| Pathway Plan and Profile Sheet | 2 | | | | | 2 | 2 | 18 | 8 | | 30 | | 15.0 | |
| Earthwork and Cross Sections | N/A | | | | | 4 | 8 | 40 | | | 52 | | | |
| Roadway Quantities | N/A | | | | | 4 | 8 | 40 | | | 52 | | | |
| Prepare CAD files for submittal to City | N/A | | | | | | | 4 | 16 | | 20 | | | For final submittal only |
| Prepare exhibits and technical content for meetings | N/A | | | | | 20 | | 20 | | | 40 | | | Assume 1 exhibit for 12 of the meetings |
| 3D Rendering technical coordination | N/A | | | | | | 8 | | | | 8 | | | Allowance |
| Task 4a TOTALS | | | 0 | 0 | 0 | 32 | 34 | 180 | 76 | 0 | 322 | | | |

| Task 4b - Drainage Design | Sh Cnt. | Project Principal | Project Manager | Resident Engineer | Senior Project Engineer | Project Engineer | Engineer | Designer | CADD Technician | Admin Support | Totals | Hr Check | Hrs/sht | Assumptions |
|---------------------------|---------|-------------------|-----------------|-------------------|-------------------------|------------------|----------|----------|-----------------|---------------|--------|----------|---------|-------------|
| | | | | | | | | | | | | | | |
| QC Sub Reports | | | | | | | | | | | | | | |
| QC Sub Reports | | | | | 12 | | | | | | 12 | | | |
| TASK 4b TOTALS | | 0 | 0 | 0 | 12 | 0 | 0 | 0 | 0 | 0 | 12 | | | |

| Task 4c - Traffic Design | Sh Cnt | Project Principal | Project Manager | Resident Engineer | Senior Project Engineer | Project Engineer | Engineer | Designer | CADD Technician | Admin Support | Totals | Hr Check | Hrs/sht | Assumptions |
|--|----------|-------------------|-----------------|-------------------|-------------------------|------------------|----------|-----------|-----------------|---------------|------------|----------|---------|-------------|
| 90% and 100% (back check) Design Submittals | | | | | | | | | | | | | | |
| Pavement Marking and Signing General Notes | 2 | | | | | 1 | | 2 | 4 | | 7 | | 3.5 | |
| Pavement Marking and Signing Plans | 2 | | | | | 2 | | 16 | 8 | | 26 | | 13 | |
| Sign Summary Sheets | 2 | | | | | 2 | | 8 | 14 | | 24 | | 12 | |
| Quantities | N/A | | | | | 8 | | 8 | 8 | | 24 | | | |
| Specification Development | N/A | | | | | 2 | | 16 | 4 | | 22 | | | |
| Lighting Analysis | N/A | | | | | 8 | | 24 | | | 32 | | | |
| Lighting Plan Sheet | 1 | | | | | 8 | | 4 | 16 | | 28 | | 28 | |
| Lighting Detail Sheet | 2 | | | | | 8 | | 4 | 16 | | 28 | | 14 | |
| Integration of Gates | N/A | | | | | 8 | | 4 | | | 12 | | | |
| TASK 4c - TOTAL HOURS | 7 | | 0 | 0 | 0 | 47 | 0 | 86 | 70 | 0 | 203 | | | |

| Task - 4d Landscape and Irrigation (Contingency) | Sh Cnt. | Project Principal | Project Manager | Resident Engineer | Senior Project Engineer | Project Engineer | Engineer | Designer | CADD Technician | Admin Support | Totals | Hr Check | Hrs/sht | Assumptions |
|--|---------|-------------------|-----------------|-------------------|-------------------------|------------------|----------|----------|-----------------|---------------|--------|----------|---------|-------------|
| | | | | | | | | | | | | | | |
| Review information by Sub for consistency | | | | | | | 3 | | | | 3 | | | |
| TASK 4d TOTAL | | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 3 | | | |

| Task 5 - Special Provisions and Engr's Cost Estimate | Sh Cnt. | Project Principal | Project Manager | Resident Engineer | Senior Project Engineer | Project Engineer | Engineer | Designer | CADD Technician | Admin Support | Totals | Hr Check | Hrs/sht | Assumptions |
|--|---------|-------------------|-----------------|-------------------|-------------------------|------------------|----------|----------|-----------------|---------------|-----------|----------|---------|-------------|
| 60% Design Submittal | | | | | | | | | | | | | | |
| - Preliminary special provisions | | | 12 | | 4 | 8 | 4 | | | | 28 | | | |
| - Preliminary cost estimate | | | 4 | | | 4 | | | | | 8 | | | |
| Total 60% Submittal | | | 16 | 0 | 4 | 12 | 4 | 0 | 0 | 0 | 36 | | | |
| 95% Design Submittal | | | | | | | | | | | | | | |
| - Special provisions | | | 8 | | 4 | | | | | | 12 | | | |
| - Cost estimate | | | 4 | | | 8 | | | | | 12 | | | |
| Total 95% Submittal | | | 12 | 0 | 4 | 8 | 0 | 0 | 0 | 0 | 24 | | | |
| 100% (back check) Final Design Submittal | | | | | | | | | | | | | | |
| - Special provisions | | | 4 | | 4 | | | | | | 8 | | | |
| - Cost estimate | | | 8 | | | 4 | | | | | 12 | | | |
| Total 100% Submittal | | | 12 | 0 | 4 | 4 | 0 | 0 | 0 | 0 | 20 | | | |
| Sealed | | | | | | | | | | | | | | |
| - Special provisions | | | 6 | | 2 | | | | | | 8 | | | |
| - Cost estimate | | | 8 | | | | | | | | 8 | | | |
| Sealed Total | | | 14 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 16 | | | |
| TASK 5 - TOTAL | | 0 | 54 | 0 | 14 | 24 | 4 | 0 | 0 | 0 | 96 | | | |

| Task 6 - Geotechnical Design | Sh Cnt. | Project Principal | Project Manager | Resident Engineer | Senior Project Engineer | Project Engineer | Engineer | Designer | CADD Technician | Admin Support | Totals | Hr Check | Hrs/sht | Assumptions |
|------------------------------|---------|-------------------|-----------------|-------------------|-------------------------|------------------|----------|----------|-----------------|---------------|------------|----------|---------|----------------------------|
| Project Coordination | | | 2 | | 16 | 12 | | | | 2 | 32 | | | Does not include proj mtgs |
| Site Reconn | | | 12 | | 12 | | | | | | 24 | | | |
| Background Review | | | 4 | | 10 | 24 | | | | | 38 | | | |
| Analysis | | | 2 | | 20 | 36 | | | | | 58 | | | |
| Reporting (Draft/Final) | | | 6 | | 24 | 36 | | | 4 | 4 | 74 | | | |
| QC/Review | | | 8 | | 5 | | | | | | 13 | | | |
| Task 6 TOTALS | | 0 | 34 | 0 | 87 | 108 | 0 | 0 | 4 | 6 | 239 | | | |

| Task 7 - Structures Design | Sh Cnt. | Project Principal | Project Manager | Resident Engineer | Senior Project Engineer | Project Engineer | Engineer | Designer | CADD Technician | Admin Support | Totals | Hr Check | Hrs/sht | Assumptions |
|--|---------|-------------------|-----------------|-------------------|-------------------------|------------------|-----------|----------|-----------------|---------------|----------|----------|------------|--|
| 60%, 90% and 100% (back check) Design Submittal | | | | | | | | | | | | | | |
| Retaining Wall Plan | 1 | | | | 1 | 2 | | 14 | | | 17 | | 17.0 | |
| Retaining Wall Profile | 2 | | | | 2 | 12 | | 44 | | | 58 | | 29.0 | Assumes ADOT Std Screen Walls and 1 Custom Design Wall for U-Shaped Ramp |
| Channelization Wall Plan | 2 | | | | 1 | 4 | | 32 | | | 37 | | 18.5 | Assume 2 walls btwn Portal Ln & Schneby Hill Rd |
| Channelization Wall Profile | 3 | | | | 2 | 10 | | 40 | | | 52 | | 17.3 | Assumes ADOT Std Screen Walls |
| Wall Details | 1 | | | | 1 | 4 | | 20 | | | 25 | | 25.0 | |
| Wall Quantities | N/A | | | | 1 | 4 | | 10 | | | 15 | | | |
| Task 7 TOTALS | | | | 0 | 0 | 8 | 36 | 0 | 160 | 0 | 0 | | 204 | |

| Task 8 - Utility Coordination | Sh Cnt. | Project Principal | Project Manager | Resident Engineer | Senior Project Engineer | Project Engineer | Engineer | Designer | CADD Technician | Admin Support | Totals | Assumptions |
|---|----------|-------------------|-----------------|-------------------|-------------------------|------------------|-----------|-----------|-----------------|---------------|-----------|--------------------|
| Utility Coordination Meetings | | | | | | | | | | | | |
| Meetings with utility companies. Includes meeting agendas and minute prep. (2 mtgs) | | | | | | | | | | | 0 | Under Task 10 |
| Request and review prior rights documentation | | | 1 | | | | 4 | 4 | | | 9 | |
| Prepare/Track utility conflict letters and submittals (3 submittals - 60%, 90%, 100%) | | | | | | | 4 | 10 | | | 14 | |
| Review utility base map | | | | | | 2 | | | | | 2 | Provided by Cooper |
| Prepare pothole list and review results | | | | | | | 2 | 2 | 4 | | 8 | |
| Prepare pothole plans and QC | | | | | | 2 | | 2 | 4 | | 8 | |
| Identify and Resolve Conflicts | | | 1 | | | | 2 | 6 | | | 9 | |
| Track Conflict Resolution | | | | | | | 2 | 6 | | | 8 | |
| Review relocation plans | | | | | | | 4 | 8 | | | 12 | |
| Utility Specifications | | | | | | | 4 | 8 | | | 12 | |
| Utility Clearance Letter (with Final Submittal) | | | 2 | | | | 2 | 2 | | | 6 | |
| QC Utility Mapping | | | | | | | 4 | | | | 4 | |
| TASK 8 - TOTAL | 0 | 0 | 4 | 0 | 0 | 4 | 28 | 48 | 8 | 0 | 92 | |

| Task 9 - Public Involvement | Sh Cnt. | Project Principal | Project Manager | Resident Engineer | Senior Project Engineer | Project Engineer | Engineer | Designer | CADD Technician | Admin Support | Totals | Hr Check | Hrs/sht | Assumptions |
|--|----------|-------------------|-----------------|-------------------|-------------------------|------------------|-----------|-----------|-----------------|---------------|-----------|----------|---------|-----------------|
| Prepare exhibits for public meeting (assume 12-boards total) | | | 8 | | | | 20 | 20 | | | 48 | | | |
| Attend 1 public meeting (2 staff members at mtg) | | | 3 | | | | 6 | | | | 9 | | | for 2 WSP staff |
| TASK 9 - TOTAL | 0 | 0 | 11 | 0 | 0 | 0 | 26 | 20 | 0 | 0 | 57 | | | |

| Task 10 - Project Management | Sh Cnt. | Project Principal | Project Manager | Resident Engineer | Senior Project Engineer | Project Engineer | Engineer | Designer | CADD Technician | Admin Support | Totals | Assumptions |
|--|---------|-------------------|-----------------|-------------------|-------------------------|------------------|-----------|-----------|-----------------|---------------|------------|--|
| Project Meetings (KOM (1), Progress Meetings (3), utility (2): agendas, attendance and Notes Total 6 meetings | | | 24 | | 30 | | | | | | 54 | PM plus 1 staff, 4 meetings to be teleconference |
| Miscellaneous Design Meetings (2), Stakeholder meetings (2), Total 4 meetings | | | 16 | | | 32 | | | | | 48 | PM plus 1 staff, 2 to be teleconference |
| Comment Res Meetings (2 meetings): Address comments, compile comments, attend comment resolution meetings, provide final disposition - Per submittal | | | 8 | | | | 8 | 8 | | | 24 | 60%, 90% for 3-WSP staff |
| Constructability reviews | | | | 32 | | | | | | | 32 | 60%, 90% |
| Environmental Permitting coordination | | | 16 | | | | | | | | 16 | |
| Initial Project Schedule, monthly updates | | | 2 | | | 8 | | | | | 10 | |
| Coordination with subs | | | 4 | | | | 24 | 24 | | | 52 | |
| Prepare subconsultant agreements | | | | | | | | | | 4 | 4 | |
| Submit Invoices and review subs invoices and progress reports | | | | | | | | | | 4 | 4 | |
| Project Quality Control review by independent reviewer per submittal | | | | | 32 | | | | | | 32 | All submittals |
| TASK 10 - TOTAL | | 0 | 70 | 32 | 62 | 40 | 32 | 32 | 0 | 8 | 276 | |

| Task 11 - Environmental | Sh Cnt. | Project Principal | Project Manager | Resident Engineer | Senior Project Engineer | Project Engineer | Engineer | Designer | CADD Technician | Admin Support | Totals | Assumptions |
|---------------------------------------|---------|-------------------|-----------------|-------------------|-------------------------|------------------|----------|-----------|-----------------|---------------|-----------|-------------|
| Outside Agency technical coordination | | | 2 | | | | | 14 | | | 16 | |
| Desktop survey | | | | | | | | 20 | | | 20 | |
| Prepare/submit Environmental Memo | | | | | | | | 20 | | | 20 | |
| QC Biological Evaluation Memo | | | 2 | | | | | 2 | | | 4 | |
| | | | | | | | | | | | 0 | |
| | | | | | | | | | | | 0 | |
| | | | | | | | | | | | 0 | |
| | | | | | | | | | | | 0 | |
| | | | | | | | | | | | 0 | |
| | | | | | | | | | | | 0 | |
| | | | | | | | | | | | 0 | |
| | | | | | | | | | | | 0 | |
| TASK 11 - TOTAL | | 0 | 4 | 0 | 0 | 0 | 0 | 56 | 0 | 0 | 60 | |

| Task 12 - Bidding Assistance | Sh Cnt. | Project Principal | Project Manager | Resident Engineer | Senior Project Engineer | Project Engineer | Engineer | Designer | CADD Technician | Admin Support | Totals | Assumptions |
|------------------------------|---------|-------------------|-----------------|-------------------|-------------------------|------------------|-----------|----------|-----------------|---------------|-----------|-------------|
| Pre-contract RFI's | | | 16 | | | | 24 | | | | 40 | |
| | | | | | | | | | | | 0 | |
| | | | | | | | | | | | 0 | |
| | | | | | | | | | | | 0 | |
| | | | | | | | | | | | 0 | |
| | | | | | | | | | | | 0 | |
| | | | | | | | | | | | 0 | |
| | | | | | | | | | | | 0 | |
| | | | | | | | | | | | 0 | |
| | | | | | | | | | | | 0 | |
| | | | | | | | | | | | 0 | |
| TASK 11 - TOTAL | | 0 | 16 | 0 | 0 | 0 | 24 | 0 | 0 | 0 | 40 | |

DIRECT EXPENSES

| | | | |
|--|------|---------------|---------|
| WSP USA Inc. | | | |
| City of Sedona - SR 170 TQ Ped Crossing | | | |
| | | | |
| Item | No. | Unit cost | Cost |
| Outside Reproduction | | | |
| Mounting Boards for Public Meetings | 12 | \$25.00 | \$300 |
| Submittal Printing - all submittals to be pdf | 0 | \$0.15 | \$0 |
| Bond full size - exhibit roll plots | 10 | \$5.70 | \$57 |
| | | | |
| SUBTOTAL | | | \$357 |
| | | | |
| Sedona All In-person Meetings (10 mtgs @ 248 miles per round trip) | 2480 | \$0.445 | \$1,104 |
| Miscellaneous Field Visits (3 visits @ 248 miles per visit) | 744 | \$0.445 | \$331 |
| | | | |
| Public Involvement Meeting (2 mtgs @ 248 miles per round trip) | 496 | \$0.445 | \$221 |
| | | | |
| SUBTOTAL | | | \$1,655 |
| | | | |
| | | Total Directs | \$2,012 |



August 30, 2019

Stephen Doubek, PE
Traffic Engineer
WSP USA
1230 West Washington Street, Suite 405
Tempe, AZ 85281

RE: Tlaquepaque Pedestrian Crossing at SR 179 – Final Design Scope of Services

Dear Stephen:

Per your request, JE Fuller (JEF) is pleased to submit this proposal for professional engineering services for the Final Design of the Tlaquepaque Pedestrian Crossing under SR 179. The anticipated scope of services for this project includes drainage related and flood warning services associated with the proposed Pedestrian Underpass at Oak Creek as outlined below.

Task 1 Project Management & Coordination - The Consultant will attend up to one (1) project meeting with City Staff in Sedona and up to two (2) meetings at WSP in Tempe. The Consultant will participate in up to three (3) additional project meetings via conference call and/or web meetings. The Consultant will conduct regular communications via phone calls and email.

Task 2 Public Involvement - The Consultant will participate in one (1) public workshop during the project. It is understood that scheduling, planning, and workshop materials will be produced by others. The Consultant will provide up to 2 exhibits for the workshop for the elements related to Oak Creek hydraulics and erosion protection.

Task 3 Data Collection and Site Reconnaissance - The Consultant will collect any additional information that wasn't collected as part of the alternatives evaluation project for use in design. The Consultant will review existing drainage studies, geotechnical reports, and other pertinent documents collected. The Consultant will conduct site reconnaissance to identify ordinary high water marks, limits of existing erosion protection, and other constraints for use in design. The Consultant will assist in preparing a list of items for field survey.

Task 4 Environmental and other Permitting - It is not anticipated that the proposed improvements will require environmental permitting, specifically Clean Water Act 404/401 permitting. The following scope assumes that proposed improvements will not fall within the jurisdictional waters of the US associated with Oak Creek. The scope and fee presented herein DOES NOT represent the level of effort required to prepare a Nationwide Permit or an Individual 404 Permit.

In accordance with the U.S. Army Corps of Engineers guidance criteria, the Consultant will research and conduct an aerial review of potentially jurisdictional waters on the site. A limited field survey of identified potentially jurisdictional and non-potentially jurisdictional waters will be completed and documented using 1:200 scale aerial maps. This task also includes review of available prior studies at the local Corps office. A preliminary Jurisdictional Delineation will be prepared to confirm that no permitting is necessary.

Task 5 Flood Warning Design (ALLOWANCE) – This task will not be initiated without written authorization by the City of Sedona. A flood warning system will be designed and specified to include a warning sign with flashing lights and an audible warning at both sides of SR 179. The design will also include an automatic gate that would close to inhibit pedestrian access to the underpass during periods with a high risk of high flows in Oak Creek. It is recommended that each unit be powered via battery and solar recharge panel for operation during power failures. The system would be comprised for a Base Control Station that would be connected, likely through a cellular network, to the National Weather Service Flood Forecasting center, USGS, Yavapai County’s ALERT system, etc. and would trigger the light and audible warnings and activate the gate based on several redundant programmed thresholds. These may include area Flash Flood warning, rain gauge data, Stream Stage or Discharge data measured upstream at the Pump House Wash stream gauge or the West Fork Oak Creek stream gauge, or a rapid rise rate at the USGS Oak Creek Gauge. The system would also need to be controlled and monitored at either the City of Sedona or Yavapai County FCD. The owner would have the ability to manually trigger the warnings/gate remotely or on site. This system would reduce or eliminate potential injuries or death to pedestrians and reduce the City’s exposure to liability.

The primary elements of the flood warning design consist of researching equipment options from vendors such as High Sierra and obtaining and developing specifications and design configurations. The fee for this Allowance Task is estimated to be \$12,028.

Task 6 Hydraulic and Erosion Protection Analysis - The Consultant will utilize the HEC-RAS hydraulic model prepared for the recent Oak Creek Floodplain Delineation Study as the base model for design. Anticipated improvements include the pedestrian underpass, modifications to existing erosion protection, and minor channelization for compensatory conveyance. The hydraulic design will be in accordance with City of Sedona, Yavapai County, and ADOT standards. It is anticipated that the proposed improvements will need to be designed to maintain the existing conditions hydraulics through the bridge and/or to hold the estimated hydraulic conditions to the original design level of the existing SR 179 bridge over Oak Creek. It is assumed that scour analysis is not needed and the Consultant will match existing erosion protection toe-down depths. The Consultant will identify existing erosion protection to be removed or replaced due to the proposed pedestrian underpass.

Task 7 Construction Plan Preparation – The Consultant will prepare CAD design drawings for the drainage related proposed improvements for the project. Anticipated design plan submittals are at 60%, 90%, 100% limited review, and Final sealed. Engineer estimates of probable construction cost will be included with each submittal.

The following is a list of anticipated sheets related to the drainage elements for the project:

- 2 Erosion Protection Plan Sheets
- 1 Channelization Plan Sheet
- 1 Erosion Protection Details Sheet
- 1 Flood Warning Plan Sheet
- 2 Flood Warning Details Sheet

Task 8 Design Memo - The Consultant will prepare a Design Memo for inclusion in the Design Report prepared by others. It is anticipated that the first draft submittal will coincide with the 60% plan submittal to the City. The memo

will document the drainage design, erosion protection, and flood warning system design. The Memo will be finalized and delivered with the Final Construction Document submittal.

Task 9 Contract Documents - The Consultant will prepare and provide Technical Specifications for the project. Technical Specifications will be drafted using City of Sedona and MAG format. The Consultant's Specifications will be limited to drainage related proposed improvements. Drafts of the technical specifications will be provided to the City in coordination with the Construction Plan submittal schedule starting at the 90% submittal.

Task 10 Construction Cost Estimates - The Consultant will provide quantity estimates and construction cost estimates at each plan submittal to assist the City with project budgeting. The cost estimates will be limited to the drainage related proposed improvements.

Task 11 Coconino County Floodplain Use Permit - The Consultant will prepare and submit a Floodplain Use Permit package to Coconino County. The package will also include a No-Rise Certificate that is required for development within a FEMA Effective Floodway. This task assumes up to two submittals (the initial submittal and one response to comments). The Coconino review fees include \$180 for the Floodplain Permit and \$1,204 for Drainage Report Review.

Items not included in this Scope of Services - The following services are not included in this scope of work but can be added for additional fee:

- Post Design Services
- Agency review fees (Except for the Coconino County review fees included in Task 11)
- Environmental Permitting Submittals
- Scour or sediment transport analysis
- FEMA submittals
- Landscape Plans
- Field Surveying
- Construction Staking
- Pot-holing excavation of existing utilities
- Blue Staking
- Property Owner Notification/individual communication
- Reproducible Construction Plans/Black Lines/Hard Copy Reports
- Any items not discussed in Tasks outlined above

Our estimated fee to complete this work is Not to Exceed \$42,380.16 (without allowances) to be invoiced on a T&M basis according to the attached fee tables.

Sincerely,

JE Fuller/Hydrology & Geomorphology, Inc.



Rob Lyons, P.E., CFM, Vice President

FEE PROPOSAL - TABLE A
CONSULTANT/SUBCONSULTANT COST PROPOSAL SUMMARY

CONSULTANT/SUBCONSULTANT: **JE Fuller**

PROJECT NAME: Tlaquepaque Pedestrian Crossing at SR 179 – Final Design

PROJECT NO.: N/A

TRACS NO.: N/A

CHANGE ORDER NO.: N/A

LABOR:

| Classifications | Manhours | Hourly Rates | Labor Costs |
|----------------------|----------|--------------|-------------|
| Senior Engineer | 8 | \$160.00 | \$1,280.00 |
| Project Manager | 106 | \$148.00 | \$15,688.00 |
| Project Engineer III | 0 | \$135.00 | \$0.00 |
| Project Engineer II | 74 | \$125.00 | \$9,250.00 |
| Project Engineer I | 16 | \$110.00 | \$1,760.00 |
| Hydro Tech II | 0 | \$90.00 | \$0.00 |
| EIT/CADD | 130 | \$95.00 | \$12,350.00 |
| Admin | 0 | \$105.00 | \$0.00 |

Total Labor 334

Total Labor \$40,328.00

DIRECT AND OUTSIDE EXPENSES

| | | | |
|-------------------------|--------------|---------|------------|
| Transportation / Travel | 1152 Miles @ | \$0.580 | \$668.16 |
| Agency Review Fees | | | \$1,384.00 |

Total Direct and Outside Expenses \$2,052.16

Total Labor and Expenses \$42,380.16

SUBCONSULTANTS

| <u>Name</u> | <u>Cost</u> |
|-------------|-------------|
| | \$0.00 |

Total Subconsultant(s) \$0.00

TOTAL PROPOSED FEE \$42,380.16

TOTAL PROPOSED FEE WITH ALLOWANCES \$54,408.16



Shephard ▲ Wesnitzer, Inc.

Engineering an environment of excellence

75 Kallof Place
Sedona, AZ 86336

P.O. Box 3924
Sedona, AZ 86340

928.282.1061

www.swiaz.com

Engineering an environment of excellence.

PROPOSAL/ AGREEMENT FOR PROFESSIONAL SERVICES

Ref. No. 19176
September 5, 2019

BETWEEN: WSP USA
1230 West Washington Street, Suite 405
Tempe, AZ 85281

AND: Shephard - Wesnitzer, Inc.
P.O. Box 3924
Sedona, Arizona 86340 ("SWI")

FOR THE PROJECT: Professional Survey Services
SR-179 Pedestrian Underpass ("PROJECT")
Sedona, Arizona ("SITE")

The Client and SWI do hereby agree as follows:

1.0 DESCRIPTION OF PROJECT

Information provided by Client indicates that the Project will consist of design for a pedestrian underpass at the Site.

2.0 PURPOSE

The purpose of our Surveying Services will be to provide a topographic survey of the Site, see attached Exhibit "B" for survey limits

Client's Initials _____

3.0 SCOPE OF SERVICES

We propose to provide the following:

| Item No. | Description | Fee |
|--------------|--|------------------------|
| 1. | <p>Topographic Survey and Right of Way Base Files: SWI will locate topographic features on SR-179 from Portal Ln. to Schnebly Hill Rd along the path area going 35' from path centerline in each direction, including bottom of the bridge for vertical clearance, private walls, any bridge infrastructure running next to the path, pavement, curb, parking spaces, visible above ground utilities (surface appurtenances), trees (trunks) 4" and larger DBH (diameter at breast height), spot elevations, bridge supports and infrastructure below the bridge decks, pavement striping and markings, location of existing drainage and drainage structures, edges of roadway and fence, and provide survey control referenced to the City of Sedona datums. In addition to the topographic survey SWI will locate and determine the right-of-way within the limits of the survey. See Exhibit "B" attached for limits of survey.</p> <p>SWI will establish a site benchmark referenced to NAVD 88.</p> <p>SWI will prepare a sealed and signed survey control sheet showing topography with one (1) foot contour intervals and spot elevations depicting site features, with right of way location.</p> <p>Deliverables: 24"x36" sealed topographic survey, PDF of sealed drawing and CAD file.</p> | <p>\$10,500</p> |
| 2. | <p>Legal Descriptions (allowance): SWI will prepare up to 3 Legal Descriptions, only if authorized by Client.</p> | <p>\$1,800</p> |
| 3. | <p>Record of Survey (allowance): SWI will prepare a Record of Survey only if authorized by the Client.</p> | <p>\$4,500</p> |
| 4. | <p>Additional Topographic Survey (allowance): SWI will conduct two additional days of field and office survey work of topographic survey only if authorized by the Client.</p> | <p>\$2,400</p> |
| 5. | <p>Reimbursable Expenses: Reimbursable expenses include FedEx charges, mileage, plan reproduction costs.</p> | <p>\$400</p> |
| TOTAL | | \$19,600 |

4.0 SCHEDULE

Work will be scheduled upon receipt of a signed copy of this agreement. Topographic Survey is expected to take 3 - 4 weeks to complete for client review.

5.0 ASSUMPTIONS

- a. That sufficient boundary monumentation necessary to relate the record boundary to the topographic survey exists on subject parcels.
- b. It is also assumed that no survey problems exist, such as erroneous monumentation, overlapping or defective deeds, or discrepancies between record title dimensions and actual field conditions or occupation. Client will be notified of any such circumstances.
- c. SWI surveyors will have full unrestricted access to the Site.

6.0 MANNER OF PAYMENT

Billing for work in progress will be made on a monthly basis. Payment is due upon receipt of monthly billings. Late fees at the rate of 2% interest on balance owed will be assessed to client for delays in payments in excess of 30 days from the date of invoice. Services will be halted due to delays in payment. Final revisions to calculations and drawings will be released upon receipt of final payment.

7.0 FEES

The cost of Professional Surveying services for scope items 1 through 5 is a lump sum fee of \$19,600. Any additional work which may be indicated by the discovery of unanticipated conditions in the field or revisions to the site plans instigated by others will be performed, only upon your authorization, in accordance with our current standard fee schedule. Current standard hourly rates are subject to change as current year expires. The estimated fee noted above is valid for 90 (ninety) calendar days after which time a review by SWI will be required. Fees are based on work proceeding in a timely manner with project design completed in 2 years.

8.0 STANDARD SWI TERMS AND CONDITIONS

Attached hereto and incorporated by the reference are the **SWI Standard Terms and Conditions**, which shall govern this agreement.

9.0 SERVICES NOT INCLUDED

ALTA survey, civil engineering, construction staking, geotechnical investigations, environmental studies, archeological studies, or any other work not specifically identified in Section 3.0, Scope of Services. All agency and/or permitting fees to be paid by Client.

This Proposal/Agreement, and the attached **Terms and Conditions**, contains the entire agreement between the parties, and supersedes all other agreements, either oral or written. No representations or warranties shall be valid or binding unless contained herein.

The signature below constitutes Shephard- Wesnitzer Inc.'s intention to be bound under the terms of this Proposal/Agreement, including the attached **Terms and Conditions**. The Client may accept by signing and returning to Shephard-Wesnitzer, Inc.

Any change to the **Terms and Conditions** of this Proposal/Agreement, or the tender of any contract documents in place of this Proposal/Agreement shall not be valid unless made in writing, dated and signed by all the parties.

EXECUTED BY:



September 5, 2019

Shephard-Wesnitzer, Inc.

The foregoing AGREEMENT with its attached **Terms and Conditions** has been proposed by Shephard-Wesnitzer, Inc. and has been read, is understood, and is hereby accepted.

EXECUTED BY:

Client / Authorized Representative

_____, 2019
Date

Typed or Printed Name

Title

TERMS AND CONDITIONS

Ref. No. 19176

The captions of the sections herein are intended for convenience of reference only and shall not be used to interpret the content of each section.

1. PROJECT INFORMATION

- 1.1 In preparation of its Proposal, SWI has relied on certain information and documentation supplied by CLIENT or CLIENT's agents as being accurate, and CLIENT agrees that SWI has a right to rely on the said information or documentation.
- 1.2 CLIENT affirms that CLIENT has provided all documents, maps and other information in CLIENT's possession, relating to past, present and proposed future use of THE SITE and its surrounding area, to SWI before execution of this Agreement by SWI.
- 1.3 CLIENT confirms that the content of all documents, maps and other information which CLIENT has provided to SWI before SWI's execution of this Agreement is correctly addressed in the Scope of Services part of this Agreement.
- 1.4 CLIENT will designate in writing those persons, organizations or agencies to be contacted in the event conditions are revealed during the execution of SWI's services that would require possible alteration of the services hereunder.

2. WARRANTY

SWI warrants their services are performed, within the limits prescribed by this Agreement, with the usual thoroughness and competence of the professions practicing these services in the same or similar locality of THE SITE at the time of this Agreement. No other warranty or representation, either expressed or implied, is included or intended under this Agreement.

3. SAFETY

SWI will perform work under safe conditions. CLIENT may be charged additionally for safety or security measures required by dangerous job conditions, encountered during SWI's performance of the required services that could not be anticipated by review of the information available at the time the Agreement was executed.

4. INSURANCE

- 4.1 SWI will maintain the following insurance and amounts: Workman's Compensation, statutory limits; General Liability, \$1,000,000; Professional Liability, \$1,000,000.
- 4.2 No insurance, of whatever kind or type which may be carried by SWI, is to be considered in any way limiting the responsibility of others for damages resulting from their operations or for furnishing work and materials ON THE SITE.

5. LIMITS OF LIABILITY

For any damage, cost, expenses, or other liability, direct or indirect, resulting from any error, omission, or professional negligence in the performance of SWI's services, the liability of SWI, its employees, agents, officers, and consultants to all claimants with respect to THE PROJECT will be limited to an aggregate sum not to exceed \$50,000 or SWI's total fee for the services rendered on THE PROJECT, whichever is greater.

6. NOTIFICATION OF DEFECTS IN SERVICE

CLIENT, CLIENT's personnel, and CLIENT's contractors and subcontractors shall promptly report in writing to SWI any defects or suspected defects in SWI's work or services, in order that SWI may take prompt, effective measures which in SWI's opinion will minimize the consequences of a defect in service.

7. INDEPENDENT CONTRACTOR STATUS

CLIENT confirms that SWI is employed as an independent contractor to perform the services required under this Agreement. SWI shall be free to exercise its discretion and independent judgment as to the methods and means of performance of these services, consistent with all other requirements of this Agreement.

8. OWNERSHIP AND DISPOSITION OF DOCUMENTS

- 8.1 CLIENT agrees that all documents, calculations, studies, plans, maps, models, photographs, drawings, computer printouts, field notes, samples, logs, specimens, laboratory test data, and other products generated in the performance of services rendered under this agreement constitute work for hire and are and shall remain the property of SWI.
- 8.2 SWI agrees that, during the performance of this Agreement, and thereafter it will **not** disclose to any persons, other than the CLIENT, CLIENT's authorized representatives, and those persons, organizations or agencies specifically designated in writing by CLIENT, any information pertaining to this Agreement or services rendered by SWI pursuant to this agreement except as follows:
- 8.3 In response to a valid subpoena or requirement under the law; however, SWI shall notify CLIENT upon receipt of the subpoena or other mandate in order to give CLIENT time to protect the confidentiality of the materials sought; and
- 8.4 Under circumstances where, in SWI's professional judgment, the performance of the duties under this agreement discloses a serious threat to the public health, safety or welfare, and the CLIENT after being notified of the threat refuses to, or does not take appropriate action within a reasonable time, then SWI has a professional obligation to notify the appropriate Regulatory Agency of the specific nature of the public threat.

9. DELIVERY OF ELECTRONIC FILES

In accepting and utilizing any drawings, reports and data on any form of electronic media generated and furnished by the Consultant, the Client agrees that all such electronic files are instruments of service of the Consultant, who shall be deemed the author, and shall retain all common law, statutory law and other rights, without limitation, including copyrights.

The Client agrees not to reuse these electronic files, in whole or in part, for any purpose other than for the Project. The Client agrees not to transfer these electronic files to others without the prior written consent of the Consultant. The Client further agrees to waive all claims against the Consultant resulting in any way from any unauthorized changes to or reuse of the electronic files for any other project by anyone other than the Consultant.

The Client and the Consultant agree that any electronic files furnished by either party shall conform to the specifications listed in Exhibit A. Any changes to the electronic specifications by either the Client or the Consultant are subject to review and acceptance by the other party. If the Consultant is required to expend additional effort to incorporate changes to the electronic file specifications made by the Client, these efforts shall be compensated for as Additional Services.

Electronic files furnished by either party shall be subject to an acceptance period of seven (7) days during which the receiving party agrees to perform appropriate acceptance tests. The party furnishing the electronic files shall correct any discrepancies or errors detected and reported within the acceptance period. After the acceptance period, the electronic files shall be deemed to be accepted and neither party shall have any obligation to correct errors or maintain electronic files.

The Client is aware that differences may exist between the electronic files delivered and the printed hard-copy construction documents. In the event of a conflict between the signed construction documents prepared by the Consultant and electronic files, the signed or sealed hard-copy construction documents shall govern.

In addition, the Client agrees, to the fullest extent permitted by law, to indemnify and hold harmless the Consultant, its officers,

TERMS AND CONDITIONS

Ref. No. 19176

directors, employees and sub-consultants (collectively, Consultant) against all damages, liabilities or costs, including reasonable attorneys' fees and defense costs, arising from any changes made by anyone other than the Consultant or from any reuse of the electronic files without the prior written consent of the Consultant.

Under no circumstances shall delivery of electronic files for use by the Client be deemed a sale by the Consultant, and the Consultant makes no warranties, either express or implied, of merchantability and fitness for any particular purpose. In no event shall the Consultant be liable for indirect or consequential damages as a result of the Client's use or reuse of the electronic files.

10. ACTS OR OMISSIONS OF OTHERS

SWI shall not be responsible for acts or omissions of any other party or parties involved in planning or designing of any project(s) for construction on THE SITE or the failure of any contractor or subcontractor to construct any item on THE SITE in accordance with recommendations contained in any documents issued by SWI. SWI, by the performance of services hereunder, does not in any way assume, abridge or abrogate any of those duties, responsibilities or authorities with regard to any project(s) on THE SITE customarily vested in project architects, design engineers, or any other design agencies or authorities.

11. RELIANCE ON PUBLIC RECORDS OR OTHER NON-SWI REPORTS AND DATA

Unless otherwise described in "SCOPE OF SERVICES", SWI accepts no responsibility for the correctness or accuracy of data or conclusions contained in public records, reports or other documents which were not published by SWI, but which are discovered by SWI in performance of the services required by this Agreement. CLIENT waives any claim against SWI, and agrees to defend, indemnify and hold SWI harmless from any claim or liability for injury or loss allegedly arising from errors, omissions or inaccuracies in such public records or in such other reports or documents.

12. SITE ENTRY

CLIENT will furnish right of entry onto THE SITE for SWI to make the necessary field studies.

13. MEDIATION

In an effort to resolve any conflicts that arise during the design and construction of the Project or following the completion of the Project, the Client and the Consultant agree that all disputes between them arising out of or relating to this Agreement or the Project shall be submitted to nonbinding mediation unless the parties mutually agree otherwise.

The Client and the Consultant further agree to include a similar mediation provision in all agreements with independent contractors and consultants retained for the Project and to require all independent contractors and consultants also to include a similar mediation provision in all agreements with their subcontractors, sub-consultants, suppliers and fabricators, thereby providing for mediation as the primary method for dispute resolution between the parties to all those agreements.

14. LITIGATION BETWEEN AGREEMENT PARTIES

In the event of litigation or arbitration between the parties to this Agreement, all reasonable costs and attorney's fees to enforce this Agreement incurred by the prevailing party shall be reimbursed by the non-prevailing party.

15. SUBPOENAS

CLIENT is responsible, after notification, for payment of time and expenses resulting from SWI's required response to subpoenas issued in conjunction with SWI's work. Compensation will be based on schedules in effect at the time the subpoena is served.

16. COMPLIANCE WITH LAWS

SWI and its subcontractors shall comply with all existing applicable laws and regulations under this Agreement; however, laws or ordinances enacted after the signing of this Agreement might increase SWI's cost of performing services included in this Agreement by requiring modifications or additions to SWI's work, facilities or equipment. CLIENT shall reimburse SWI for such increased cost in proportion to the amount of the cost attributable to SWI's performance of services on THE PROJECT.

17. INDEMNITY

CLIENT and SWI do hereby indemnify and hold each other harmless from damage to property of whatsoever kind and nature, and injury to persons, including death, occasioned by the negligent or willful acts, errors or omissions of the indemnifying party, arising out of, or in any way connected to this Agreement.

18. NOTIFICATION OF HAZARDOUS SUBSTANCES

CLIENT hereby warrants that, if it knows or has any reason to assume or suspect that hazardous substances may exist at THE SITE, CLIENT has so informed SWI.

19. DISCOVERY OF UNANTICIPATED HAZARDOUS SUBSTANCES

SWI and CLIENT agree that the discovery of unanticipated hazardous substances constitutes a changed condition mandating a renegotiation of the scope of work or termination of services. SWI agrees to notify CLIENT as soon as practically possible should unanticipated hazardous substances or suspected hazardous substances be encountered. SWI is hereby authorized to take such emergency measures, if any, that are necessary in SWI's professional opinion to immediately protect the health, safety and welfare of the public and SWI's personnel, and/or the environment and CLIENT agrees to compensate SWI for such emergency work. Thereafter, CLIENT and SWI will negotiate to change the scope of services hereunder to include said emergency work. In addition, CLIENT waives any claim against SWI, and agrees to indemnify, defend and hold SWI harmless from any claim or liability for injury or loss arising from SWI's encountering unanticipated hazardous substances or suspected hazardous substances. CLIENT also agrees to compensate SWI for any time spent and expenses incurred by SWI in defense of any such claim, with such compensation to be based upon SWI's prevailing fee schedule and expense reimbursement policy.

20. PAYMENT

CLIENT shall pay SWI in full for all services under the Agreement and executed written Change Orders, irrespective of any claim by CLIENT to third parties for compensation for additional work conducted by SWI. Any such claim shall in no respect delay payment of fees for services performed by SWI. Standard hourly rates are subject to change as current year expires.

21. TERMINATION

21.1 This Agreement may be terminated by either party giving not less than ten (10) days written notice to the other party specifying a substantial failure to perform in accordance with the terms of the Agreement through no fault of the terminating party, provided that the terminating party is in full compliance with the Agreement at the time of the notice of termination.

21.2 Such termination shall not be effective if that substantial failure has been remedied before expiration of the period specified in the written notice.

21.3 In the event of termination for any reason prior to completion of all reports contemplated by the Agreement, SWI reserves the right to complete such analyses and records as are necessary to place their files in order and, where considered necessary by them to protect their professional reputation, to complete a report on the services performed to date.

TERMS AND CONDITIONS

Ref. No. 19176

22. TERMINATION CHARGES

22.1 If this Agreement is terminated and the termination is due to substantial failure of CLIENT to perform in accordance with the Agreement through no fault of SWI, CLIENT shall pay SWI for services performed to the termination date plus termination charges.

22.2 Termination charges shall include personnel and equipment rescheduling and/or reassignment adjustments and all other related costs that are directly attributable to termination. At the option of SWI an additional termination charge, not to exceed thirty percent (30%) of all charges incurred up to the date of termination may be made to cover the cost of completing analyses, records and reports in accordance with 21.3 of these Terms and Conditions.

23. SUSPENSION OF SERVICES

23.1 CLIENT may, upon ten (10) days written notice, suspend further performance by SWI at any time.

23.2 If CLIENT's payment of statements is delinquent, SWI may, upon ten (10) days written notice, suspend further performance until such payment is restored to a current basis.

23.3 At the option of SWI, suspension for any reason exceeding thirty (30) days shall make this Agreement subject to termination or renegotiation.

23.4 All suspensions shall extend this Agreement's completion date commensurately.

23.5 In the event of suspension of services for any reason prior to completion of all reports contemplated by the Agreement, SWI reserves the right to complete such analyses and records as are necessary to place their files in order and, where considered necessary by them to protect their professional reputation, to complete a report on the services performed to date.

24. SUSPENSION CHARGES

24.1 If SWI's performance is suspended for any reason, CLIENT shall pay SWI for services performed to the suspension notice date plus suspension charges.

24.2 Suspension charges shall include personnel and equipment rescheduling and/or reassignment adjustments, all other related costs indirectly attributable to suspension, and charges for completing analyses, records and reports in accordance with 23.5 of these Terms and Conditions.

25. DELAYS

25.1 Delays resulting from acts of God or from factors beyond the reasonable control of the parties, or from the action or inaction of CLIENT shall extend this Agreement completion date commensurately.

25.2 CLIENT shall pay SWI for services performed to the delay commencement date plus delay charges. Delay charges shall include personnel and equipment rescheduling and/or reassignment adjustments and all other related costs indirectly attributable to such delays.

26. ASSIGNS

Neither CLIENT nor SWI may delegate, assign or transfer his duties or interest in this Agreement without the written consent of the other party.

27. BETTERMENT

If, due to SWI's error, any required item or component of the PROJECT is omitted from SWI's construction documents, SWI shall not be responsible for paying the cost to add such item or component to the extent that such item or component would have been otherwise necessary to the PROJECT or otherwise adds value or betterment to the PROJECT. In no event shall SWI be responsible for any cost or expense that provides betterment, upgrade or enhancement of the PROJECT.

28. CONSTRUCTION OBSERVATION

28.1 SWI shall visit the site at intervals appropriate to the stage of construction, or as otherwise agreed to in writing by the Client and SWI, in order to observe the progress and quality of the Work completed by the Contractor. Such visits and observation are not intended to be an exhaustive check or a detailed inspection of the Contractor's work but rather are to allow SWI, as an experienced professional, to become generally familiar with the Work in progress and to determine, in general, if the Work is proceeding in accordance with the Contract Documents.

Based on this general observation, SWI shall keep the Client informed about the progress of the Work and shall endeavor to guard the Client against deficiencies in the Work.

If the Client desires more extensive project observation or full-time project representation, the Client shall request that such services be provided by SWI as Additional Services in accordance with the terms of this Agreement.

SWI shall not supervise, direct or have control over the Contractor's work nor have any responsibility for the construction means, methods, techniques, sequences or procedures selected neither by the Contractor nor for the Contractor's safety precautions or programs in connection with the Work. These rights and responsibilities are solely those of the Contractor in accordance with the Contract Documents.

SWI shall not be responsible for any acts or omissions of the Contractor, subcontractor, any entity performing any portions of the Work, or any agents or employees of any of them. SWI does not guarantee the performance of the Contractor and shall not be responsible for the Contractor's failure to perform its Work in accordance with the Contract Documents or any applicable laws, codes, rules or regulations.

28.2 SWI shall not be responsible for as-built certifications requested by the CLIENT, regulatory agencies or other third parties unless SWI has conducted the as-built field surveys and has conducted adequate construction observation services to certify to the accuracy and quality of the construction.

P:\2019\19176\Project Management\Proposal\19176 SR 179 Pedestrian Underpass.docx

SHEPHARD-WESNITZER, INC. - 2019 HOURLY RATES

STANDARD RATE SCHEDULE

| | | |
|--------|---|---------------------------|
| E-5 | ENGINEER 5..... | \$185/HOUR |
| E-4 | ENGINEER 4..... | \$175/HOUR |
| E-3 | ENGINEER 3..... | \$150/HOUR |
| E-2 | ENGINEER 2..... | \$135/HOUR |
| E-1 | ENGINEER 1..... | \$120/HOUR |
| EIT-4 | ENGINEER IN TRAINING..... | \$115/HOUR |
| EIT-3 | ENGINEER IN TRAINING..... | \$110/HOUR |
| EIT-2 | ENGINEER IN TRAINING..... | \$105/HOUR |
| EIT-1 | ENGINEER IN TRAINING..... | \$100/HOUR |
| CADD-4 | CADD DESIGNER | \$115/HOUR |
| CADD-3 | CADD DESIGNER | \$100/HOUR |
| CADD-2 | CADD DESIGNER | \$85/HOUR |
| CADD-1 | CADD DESIGNER | \$65/HOUR |
| CAD-4 | CAD DRAFTER..... | \$85/HOUR |
| CAD-3 | CAD DRAFTER..... | \$75/HOUR |
| CAD-2 | CAD DRAFTER..... | \$65/HOUR |
| CAD-1 | CAD DRAFTER..... | \$55/HOUR |
| A-1 | CLERICAL..... | \$65/HOUR |
| RLS | REGISTERED LAND SURVEYOR, PROJECT MANAGER | \$145/HOUR |
| RLSPC | REGISTERED LAND SURVEYOR, PARTY CHIEF | \$125/HOUR |
| LSIT | LAND SURVEYOR IN TRAINING, PARTY CHIEF | \$105/HOUR |
| NRL | NON-REGISTERED LAND SURVEYOR, PARTY CHIEF | \$105/HOUR |
| T-4 | CONSTRUCTION INSPECTION TECHNICIAN | \$105/HOUR |
| T-3 | PROJECTCOORDINATOR | \$90/HOUR |
| INT -1 | INTERN | \$60/HOUR |
| | MARKETING DIRECTOR | \$65/HOUR |
| | GIS COORDINATOR..... | \$95/HOUR |
| | INSTRUMENT PERSON..... | \$65/HOUR |
| | GPS RECEIVER..... | \$30/HOUR PER RECEIVER |
| | ROBOTIC TOTAL STATION..... | \$25/HOUR |
| | ARCHIVE FILE RESEARCH..... | \$60/HOUR, 1 HOUR MINIMUM |

OUTSIDE SERVICE COST + 10%

PRINTS

| | |
|--------------|------------|
| BOND..... | \$2.75EACH |
| VELLUMS..... | \$5.00EACH |
| MYLAR..... | \$6.00EACH |

PLOTS

| | |
|------------------------|----------------|
| BOND..... | \$5.00EACH |
| VELLUM..... | \$10.00EACH |
| MYLAR..... | \$10.00EACH |
| COLOR PLOTS/BOND | \$15.00EACH |
| XEROX..... | \$.09EACH |
| CD'S..... | \$5.00EACH |
| MILEAGE..... | \$.65 PER MILE |

FOR ANY AND ALL SERVICES RELATED TO LITIGATION OR OTHER LEGAL PROCEEDINGS TWO TIMES OUR STANDARD RATES

WORK OUTSIDE NORMAL BUSINESS HOURS WILL BE CHARGED AT 1½ TIMES HOURLY RATE. PAYMENT IS DUE UPON RECEIPT OF MONTHLY BILLINGS AND INVOICES ARE DELINQUENT THIRTY (30) DAYS AFTER DATE OF INVOICE. WORK IN PROGRESS WILL BE BILLED MONTHLY FOR PORTIONS COMPLETED AND UPON JOB COMPLETION FOR FINAL BALANCE. IF PAYMENTS ARE NOT MADE IN FULL PRIOR TO DELINQUENCY, THE CLIENT AGREES TO PAY INTEREST ON THE UNPAID AMOUNT AT THE RATE OF 2% PER MONTH FROM DELINQUENCY DATE. ALL PAYMENTS RECEIVED SHALL FIRST BE CREDITED TO PAYMENT OF INTEREST, AND THEN TO THE PRINCIPAL BALANCE.

EXHIBIT A
SHEPHARD-WESNITZER, INC.
ELECTRONIC FILE SPECIFICATIONS

| FILE TYPE | FILE FORMAT |
|--------------------------------|----------------------------------|
| Text Document | Microsoft Office Word 2013 |
| Spreadsheet | Microsoft Office Excel 2013 |
| Database | Microsoft Office Access 2013 |
| Project Scheduling | Microsoft Office Project 2003 |
| Meeting Notification | Microsoft Office Outlook 2013 |
| Presentations | Microsoft Office PowerPoint 2013 |
| Drawing Files | AutoCad 2018 or Microstation V8i |
| Geographic Information Systems | ESRI ArcInfo or AutoCad Map 2018 |
| Storm Drain Analysis | Bentley StormCAD |
| Water System Analysis | Bentley WaterCAD |
| Sewer System Analysis | Bentley SewerCAD |
| Culvert Analysis | Bentley CulvertMaster |
| Open Channel Analysis | Bentley FlowMaster |
| Pond Routing Analysis | Bentley PondPack |

August 27, 2019

WSP

Attn: Jessica Fly, PE
1230 W Washington St, Suite 405
Tempe, AZ 85281
Email: jessica.fly@wsp.com
Phone: 480-449-4935

**RE: SR 179 Pedestrian Crossing
Sedona, Arizona
Subsurface Utility Engineering (SUE) – Scope of Services
Cardno Proposal No. 16104-19-0024**

Dear Ms. Fly:

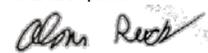
Thank you for the opportunity to propose on this project. Our experience providing subsurface utility engineering for State DOTs, counties, municipalities, and various public works departments will enable us to successfully complete this utility investigation and meet the program and project goals. The combination of our resources and experience will provide you with the confidence that Cardno is the right choice to complete the project on time and on budget. For more information please visit www.cardno.com.

Our Scope of Services is further detailed in the project understanding section of this proposal. This proposal has been prepared based upon the conversations and email correspondence with the client. We have provided you with a Time and Material Fee to complete the specific items described within the Scope of Services. We respectfully request any comments or questions you may have.

Thank you again for this opportunity. We are committed to giving you the quality and service that you expect from Cardno.

Sincerely,

Cardno, Inc.



Alan Ruck, P.E.,
Project Manager
Phone: 623.210.3100
Email: alan.ruck@cardno.com

PROJECT APPROACH

Cardno will complete a SUE mapping investigation in accordance with the CI/ASCE Standard 38: *Standard Guideline for the Collection and Depiction of Existing Subsurface Utilities*. ASCE 38 provides a nationally recognized, standard guideline for the collection and depiction of existing subsurface utility data. The quality level provides a professional opinion of the quality and reliability of the utility information. The four quality levels are as follows:

Quality Level D (QLD): Records research of existing subsurface utilities within the project limits by contacting each utility owner and obtaining their available facility records. This process will substantiate necessary records that will be obtained and the mapping of untraceable (nonmetallic buried without trace wire) utilities that do not meet Quality Level C specifications. QLD mapping is based on information obtained from record drawings and includes utility type, ownership, size and material composition.

Quality Level C (QLC): Inclusive of a QLD effort, the project team will provide QLC mapping of existing untraceable subsurface utilities by correlating surveyed surface evidence to the QLD utility records to obtain the utility location. QLC mapping includes utility type, ownership, size and material composition based on available record information.

SCOPE OF WORK

A Professional Engineer licensed in the State of Arizona shall oversee, document, stamp and seal a Subsurface Utility Engineering (SUE) investigation of the project area to determine existing utility conditions within the project limits. As part of the SUE investigation for this project the Cardno will work on the following tasks:

Utility Records Research

Cardno shall perform the following activities as part of their research effort on this project:

- Conduct a full reconnaissance and utility records research to aid in the identification of Utility Owners that may have facilities on, or be affected by, the SUE project.
- Collect all applicable utility facility records available through Utility Owner(s), such as one-call notification, service maps, as-built drawings, standard drawings, service plats, construction plans from prior projects, local government or Agency permit exhibit drawings, and oral histories gained through interviews with Utility Owner officials and authorities.
- Compile a list of all utility companies contacted for information.

Perform QLD & QLC

Cardno will conduct the following:

- Cardno will conduct a QLC & QLD investigation of existing subsurface utilities within the project limits. QLC mapping includes correlating above ground utility appurtenances with available utility records. Utilities which for which there are no visible utility appurtenances will be depicted at QLD. QLC & QLD mapping includes the type, ownership, size and material composition (based on available record information).
- Invert information and, where possible, pipe size/material will be collected at storm and sewer manholes as well as storm drain catch basins and drop inlets, where accessible from the surface. The alignment of the sewer pipes will be shown on the drawing based on a combination of record information received, results of the invert investigation, surveyed MH's/CB's and professional judgment.
- Collect top of nut elevations on water valves throughout the project limits. If valves are full of water or debris Cardno will notify the client whom will then be responsible for having the valves cleaned out.

Perform QLA Test Holes (Potholes) – Included as allowance

Cardno has included an allowance in this proposal to complete 5 test holes (estimated) identified conflict locations:

- Will assist the client in determining the critical points based on their design to identify the test hole locations along with an accompanying test hole number.
- Will provide traffic control plans and protection in accordance with the local agency specifications and permit requirements. This item will be subcontracted to a local certified traffic control company.
- Cardno will obtain required permits, contact state one-call notification system, and submit one-call tickets prior to excavation.

- Cardno will use the compressed air & vacuum excavation method at critical points to measure and record the precise horizontal and vertical position of underground utilities, as well as the type, size, condition, material and other characteristics.
- Backfill of excavated test holes will be in accordance with local agency standards (if applicable).
- The test hole information will be documented on the Cardno Testhole Data Report and then surveyed. The client will receive the reports and a CAD file with the surveyed test hole locations.

Notes:

- Prior to beginning the QLA test hole work, Cardno will need to receive a list of all requested test holes with accompanying N&E coordinates
- Each test hole will be assigned a unique ID number and will be marked for survey.
- If test holes are located in sidewalk or concrete there will be a charge of \$125 per hole to excavate, jackhammer, and remove the existing concrete on the site, saw cut, and conduct 12" x 12" concrete restoration using bagged pre-mixed concrete.
- Dry test holes over QL D or C utilities will be billed at a rate equal to 75% of the test hole rate. Extra wide test holes (larger than 18 inches in width) will be billed at 150% of the test hole rate.
- For these miscellaneous charges based on field conditions, Cardno proposes a QLA contingency of \$1,500 for the project. This will be contingency allowance that will not be billed unless field conditions are encountered as noted above
- Test Holes in which two utilities are found at a separation of more than 18" on center will be billed as two separate test holes. Test Holes which are requested at locations of the crossing of two utilities will be billed as two separate test holes.

DELIVERABLES

For the Quality Level D & C Mapping Cardno will provide utility mapping in an ASCE 38 plan set (pdf) sealed by a Registered Professional Engineer as well as providing the mapping in Microstation format.

Pertinent QLA utility test hole data will be presented in scanned electronic format on our standard "Test Hole Data Summary" and individual "Test Hole Data Report" forms sealed by an Arizona Registered Professional (licensed with the AZ Board of Technical Registration) that includes the depth, horizontal coordinates, vertical elevation, size, and material composition of the utility line exposed at each test hole.

ASSUMPTIONS

□ WSP will provide the following:

- Access to the site for Cardno field staff
- Existing topographic survey which will include above ground utility appurtenances
- Survey control
- All requested testholes will be locate outside of the roadway asphalt and therefore cost to restore testholes with hot patch asphalt has not been included in this proposal. If testholes are requested in asphalt a change order will be issued to cover these costs.
- Any previously collected utility records, points of contact, as-built plans, and electronic files will be made available for Cardno's use during the utility investigation.
- Any and all CAD files of the design provided by others will be accurate and suitable for use by Cardno. Cardno assumes that these files are approved and that they are the most current and up-to-date files available, including any and all approved addendums. ROW and/or boundary work will not be completed by Cardno as part of this scope and fee. Any ROW or boundary line work that Cardno is asked to incorporate into our plans will need to be provided to Cardno for its use. If this information is unable to be provided, it will not be included or shown on the SUE utility plans prepared and submitted by Cardno.
- This Scope of Services has been detailed to ensure we are providing the services desired and agreed to by the client and Cardno. Services not specifically listed are assumed to be excluded from Cardno's scope.

PROJECT ESTIMATE

For the services outlined Cardno proposes compensation for the estimated fee identified below.



SR 179 Pedestrian Crossing
Subsurface Utility Engineering (SUE)
Cardno Proposal

| PROJECT ESTIMATE | | | |
|---|--|-------------------|--------------------|
| SUE Quality Level "D & C" Designating/Mapping | | | |
| SUE Designating Crew | 10 hours @ | \$175.00 per hour | \$1,750.00 |
| Survey Crew | 10 hours @ | \$165.00 per hour | \$1,650.00 |
| Subtotal | | | \$3,400.00 |
| Professional Services | | | |
| Project Manager | 3 hours @ | \$185.00 per hour | \$555.00 |
| Project Engineer | 10 hours @ | \$165.00 per hour | \$1,650.00 |
| SUE Supervisor | 16 hours @ | \$120.00 per hour | \$1,920.00 |
| CAD Technician | 48 hours @ | \$98.00 per hour | \$4,704.00 |
| Admin | 4 hours @ | \$69.00 per hour | \$276.00 |
| Subtotal | | | \$9,105.00 |
| TOTAL | | | \$12,505.00 |
| Allowance for - SUE Quality Level "A" Test Holes | | | |
| SUE Quality Level "A" Test Hole Excavation | | | |
| Quality Level "A" Test Holes | 5 holes @ | \$800.00 per hole | \$4,000.00 |
| Contingency | Extra Depth/Width and/or Concrete Work | | \$1,500.00 |
| Subtotal | | | \$5,500.00 |
| Permits & Maintenance of Traffic | | | |
| Permits: | Estimated (will be invoiced at cost+10%) | | \$500.00 |
| Maintenance of Traffic Set-ups, Traffic Plan Preparation & Traffic Plan Permit Submittals | Estimated (will be invoiced at cost+10%) | | \$3,000.00 |
| Slurry Backfill | Estimated (will be invoiced at cost+10%) | | \$500.00 |
| Hot Patch | Estimated at zero cost | | \$0.00 |
| Subtotal | | | \$4,000.00 |
| Total for allowance | | | \$9,500.00 |

Proposal estimate only, the cost may vary plus or minus do to unknown field conditions & municipalities requirements

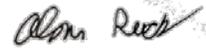
Note: Cost of permits, traffic control, barricades, and slurry backfill are estimated only.

Note: Cost of hot patch asphalt is assumed to be zero as not testholes are anticipated to be requested in the roadway. If testholes are requested in asphalt a change order will be issued for these costs.

Cardno will not exceed the estimated fee without prior authorization from Client. **An invoice will be prepared upon completion for the actual work completed up to the estimated budget amount.** We appreciate this opportunity to provide professional SUE services for this project. Should you have any questions or require additional information, please do not hesitate to call.

Sincerely,

Cardno, Inc.



Alan Ruck, P.E,
Project Manager
Phone: 623.210.3100
Email: alan.ruck@cardno.com

AGREEMENT

This Agreement sets forth the following terms and conditions for retention of **Cardno, Inc.** ("Cardno") to provide consulting services to **WSP** (hereinafter referred to as "CLIENT") in connection with the subject project.

This Agreement consists of the following identified subparts, all of which are attached hereto and by this reference incorporated herein: **SCOPE OF SERVICES, FEE SCHEDULE and GENERAL CONDITIONS.**

The basis of Cardno's retention is described in the attached SCOPE OF SERVICES, COMPENSATION and GENERAL CONDITIONS. Client acknowledges they have read and agree to the Scope of Services, Fee Schedule and General Conditions as provided in the General Conditions. Any requested services which are in addition to the attached Scope of Services will be invoiced according to Cardno's standard schedule of rates or included in a contract addendum.

THIS IS A LEGALLY BINDING AGREEMENT APPROVED AND AGREED TO:

Approved for: **WSP**

Approved for: **Cardno Inc.**

Signed: _____ Signed: _____

Name: _____ Name: _____

Title: _____ Title: _____

Date: _____ Date: _____

NOW, THEREFORE, Cardno shall perform the services outlined in this Agreement for the stated fee in accordance with these terms and conditions:

ARTICLE 1: ACCESS TO SITE

Upon execution of this Agreement, the Client represents that they have secured legal rights to access the property and authorizes Cardno staff to access the site for activities necessary for the performance of the services.

ARTICLE 2: PAYMENT

- a. Cardno will submit invoices to Client monthly for services provided during the previous month. Each invoice will identify the project name and cost of the services provided. Cardno's rates are subject to increase annually.
- b. Within thirty (30) days following Client's receipt of each invoice rendered by Cardno pursuant to this Agreement, Client will pay the amount invoiced. Retainers/deposits shall be credited on the final invoice. If Client disputes any portion of an invoice; Client will notify Cardno in writing of such disputed items within 10 days of invoice date. In the event any invoice has not been paid in full within sixty (60) days of the invoice date, Cardno may immediately suspend all or any portion of the Services hereunder indefinitely, pending payment in full of such invoice(s).
- c. Interest will accrue on accounts overdue by 30 days at the lesser of 1.5 percent per month (18 percent per annum) or the maximum legal rate of interest allowable. Collection fees and any additional legal costs associated with the recovery of outstanding payments may also be applied

ARTICLE 3: INDEMNIFICATION

Cardno and Client shall indemnify and hold harmless each other from and against damages, liabilities, costs and expenses, including but not limited to reimbursement of reasonable attorney fees arising out of damages or injuries to persons or property to the extent caused by the negligence, gross negligence or willful misconduct by the other party or anyone acting under its direction or control or on its behalf in the course of its performance under this Agreement; provided that each party's aforesaid indemnity agreement shall not be applicable to any liability based upon willful misconduct or negligence of the other party. In no event shall either party be responsible for any form of consequential damages, including, but not limited to loss of sales, loss of profits, and attorney fees thereon. For purposes of this Paragraph, the duty to indemnify does not include the duty to pay for or to provide an up-front defense against unproven claims or allegations. Where any claim results from the joint negligence, gross negligence or willful misconduct by Client and Cardno, the amount of such damage for which Client or Cardno is liable as indemnitor under this Paragraph shall equal the proportionate part that the amount of such claim attributable to such indemnitor's negligence, gross negligence or willful misconduct bears to the amount of the total claim attributable to the joint negligence, gross negligence or willful misconduct at issue.

ARTICLE 4: LIMITATION OF LIABILITIES

Notwithstanding any other provision in this Agreement, the Client agrees to strictly limit Cardno's liability under this Agreement or arising from the performance or non-performance of the Services under any theory of law, including but not limited to claims for negligence, negligent misrepresentation and breach of contract, to the lesser of five times the fees paid to Cardno for the Services or the maximum of insurance provided. No claim may be brought against Cardno in contract or tort more than two (2) years after the cause of action arose. Any claim, suit, demand or action brought under this Agreement shall be directed and/or asserted only against Cardno and not against any of Cardno's employees, shareholders, officers or directors. Cardno's liability with respect to any claims arising out of this Agreement shall be limited as provided herein to direct damages arising out of the performance of the Services and Cardno shall not be held responsible or liable whatsoever for any consequential damages, injury or damage incurred by the actions or inactions of the Client, including but not limited to claims for loss of use, loss of profits and loss of markets.

ARTICLE 5: TERMINATION

This Agreement will continue in effect until terminated by either party upon thirty (30) days written notice to the other party. In the event of any termination, Cardno shall be paid for all services rendered and reimbursables incurred through the date of notice of termination. In the event of termination, the Client shall pay all additional costs reasonably related to termination of the project and a proportionate amount of the consideration hereunder commensurate with the portion of the project accomplished.

ARTICLE 6: FORCE MARJEURE

Any suspension, temporary or permanent, in the performance of this Agreement caused by any of the following events and without fault or negligence on the part of the defaulting party shall not constitute a breach of contract: labor strikes, riots, war, acts of governmental authorities, unusually severe weather conditions or other natural catastrophic events, or any other similar event beyond the reasonable control or contemplation of either party.

ARTICLE 7: ASSIGNMENT

Neither party to this Agreement shall, without the prior written consent, of the other party, which shall not be unreasonably withheld, assign the benefit or in any way transfer any claim or obligation under this Agreement or any part hereof. This Agreement shall inure to the benefit of and be binding upon the parties hereto, and except as otherwise provided herein, upon their executors, administrators, successors, and assigns.

ARTICLE 8: OWNERSHIP OF DOCUMENTS

All report documents produced by Cardno under this Agreement shall be made available to the Client upon receipt of full payment for services rendered. Cardno shall retain ownership of all field notes, computer files and project files used to produce the work products and may make copies of all work products.

ARTICLE 9: CONFIDENTIALITY

Cardno will maintain in confidence the nature of its Services, as well as all information made available to Cardno by Client during the term of this Agreement or resulting from Services performed by Cardno under this Agreement. The confidential obligation imposed on Cardno by Paragraph 9, however, will not extend to any such information insofar as, and from such time as Cardno may disclose (i) as required by law, (ii) pursuant to court order, (iii) to its subcontractors, agents or other representatives as may be reasonably necessary to perform its services hereunder (iv) for the purpose of prosecuting or defending any litigation, or (v) Cardno can show by reasonable proof has been in the public domain. Cardno agrees to use information intended to be kept confidential under this Paragraph 9 solely to provide its Services.

ARTICLE 10: NOTICES

Any notices or written statements hereunder shall be deemed to have been given when mailed by certified or registered mail or via email, with receipt of reply, to the party entitled thereto at its address noted at the top of this Agreement or at such other latest address as it may designate in writing to the other party for this purpose.

ARTICLE 11: NON-SOLICITATION

Neither party shall knowingly solicit, recruit, hire or otherwise employ or retain the employees of the other working under this Agreement during the term of this Agreement and for one (1) year following the termination or expiration of this Agreement without the prior written consent of the other party.

ARTICLE 12: WAIVER

Failure by one party to notify the other party of a breach of any provision of this Agreement shall not constitute a waiver of any continuing breach. Failure by one party to enforce any of its rights under this Agreement shall not constitute a waiver of those rights. The waiver by either party of a breach or violation of any provision of this Agreement shall not operate as, or be construed to be, a waiver of any subsequent breach of the same or any other provision hereof.

ARTICLE 13: GOVERNING LAW

The validity of this Agreement and any of its terms or provisions, as well as the rights and duties of the parties hereunder, shall be interpreted and governed by the laws of the place of the project.

ARTICLE 14: LEGAL CONSTRUCTION

In case any one or more of the provisions contained in this Agreement shall for any reason be held to be invalid or unenforceable in any respect, such invalidity or unenforceability shall not affect any other provision hereof. This Agreement shall be construed as if such invalid or unenforceable provision had never been contained herein.

ARTICLE 15: ENTIRE AGREEMENT

This Agreement supersedes any and all other agreements, either oral or in writing, between the parties relating to the subject matter of this Agreement and is the entire understanding and agreement related thereto. This Agreement may be amended by mutual consent of the parties in writing to be attached hereto and incorporated herein, executed by Cardno's and the Client's respective representatives.



July 9, 2019

Stephen Doubek, PE
Supervising Traffic Engineer
WSP USA
350 W Washington, Street, Suite 300
Tempe, Az 85281

Subject: SR 179 at Tlaquepaque Pedestrian Crossing

Dear Mr. Doubek:

We are looking forward to working with you and your staff on the above referenced contract. As requested, we respectfully submit our revised fee proposal to perform the required landscape architectural design services. Attached and enclosed with this letter are the following:

- Scope of Work
- Derivation of Costs
- Manhour Estimate
- Other Direct Costs Breakdown

We hope that you will find this information complete. Please call me directly at 602-222-9822 should you have any questions or require additional information. Thanks again and we look forward to working with you.

Sincerely,

Edward Corral, PLA
President

Cc: file

July 9, 2019

**SR 179 at Tlaquepaque Pedestrian Crossing
Landscape Architectural Services**

**Corral Design Group, Inc. (CDG)
Scope of Work**

The scope of these services includes providing Conceptual and Final Landscape Architectural services for the City of Sedona on the above referenced project. The services include development of 60%, 90%, 100% and Final Sealed plans specifications, 3D renderings and preparation of an Engineers Opinion of Probable costs and final bid documents.

The following outlines each activity and related requirements which have been estimated for this project:

Management, Design Review and Coordination Meetings:

Hours are allocated for attending design progress and/or comment review meetings. CDG will attend design team coordination/progress meetings, plan submittal/comment resolution meetings, and public meetings as required throughout the design phase to discuss project related design requirements as necessary. The meetings will be attended by one CDG staff member to be held at the City of Sedona. Miscellaneous meetings have been included:

- 2 stake holder/aesthetics design coordination meetings (1 with the city appointed artist to develop aesthetic concepts for the rustication)
- 1 plans comment resolution meeting at each staged submittal (60% and 100% in person, 90% and final sealed plans will be via conference call)
- 2 public meetings

Base Files and Mapping:

WSP will supply all required base maps, mapping, utility files and design sheets on electronic format per the City of Sedona CADD Standard requirements for use by CDG in preparation of all scoped items and deliverables.

3D renderings:

CDG will develop up to three (3) 3D color renderings in PDF format. The renderings will depict the proposed visual impact of the pedestrian underpass in relation to the surrounding environment. Renderings include development of a preliminary wire 3D model to determine locations for the viewshed of each of the perspectives. Once the viewpoint locations have been agreed upon, the renderings will be prepared and finalized.

Wall Rustication Concepts and Coordination with Artist:

During the conceptual design process, CDG will work in coordination with the City and their selected artist on wall rustication and safety handrail aesthetic concepts. CDG will incorporate the Artist concepts into (2) preliminary and (1) final design plans derived from one of the two

preliminary designs as directed by City. Entirely new concepts can be developed as a modification to this scope of work.

60%, 90%, 100%, and Final Sealed Construction Documents:

Upon approval of the conceptual design and Artistic concepts, CDG will develop hardscape/aesthetic, landscape and irrigation plans at each of the referenced design submittal stages. Artistic concepts are assumed to be finalized and available for inclusion into the project plans beginning with the 60% design submittal. For landscape irrigation, it is assumed that water service points of connection will be identified by the City and electrical service for controllers will be coordinated with the Local Utility provider. CDG will also include an Engineers estimate of probable costs and project specifications with each of the referenced design submittals. CDG will be available in person for the 60% and 100% submittals. CDG will conference call in for the 90% and final sealed set submittals.

Quality Control

CDG has included time to prepare and implement our quality control plan.

Assumptions:

1. Additional 3D exhibits and rustication aesthetic concepts more than as described in the above scope are not part of this scope. If required, they will be added by contract modification to this scope of work.
2. Any meeting time beyond the hours established in the accompanying hourly estimate will be added by contract modification to this scope of work. CDG will attend meetings in person per the scope identified above. Additional meets can be provided as a modification to this scope of work.
3. Assembling, copying, and/or distributing the plans and renderings are by the Prime Consultant, WSP.
4. Temporary Erosion control (SWPPP) plans have not been included but can be provided as a contract modification to this scope of work
5. CDG assumes that all landscape and irrigation design will be completed using the City of Sedona's current design standards and code requirements for these scoped elements.
6. All plans, specifications, estimate of probable costs, etc.. will be provided to WSP in electronic (PDF) format at each designated stage submittal.

CORRAL DESIGN GROUP, INC.
Landscape Architectural Services
SR 179 at Tlaquepaque Pedestrian Crossing
July 9, 2019

Contract No.: _____
 CDG Project No.: 2019-TBD

DERIVATION OF COST PROPOSAL
SUMMARY

(Round Figures to the nearest \$1)

ESTIMATED DIRECT LABOR

| <u>Classification</u> | <u>Estimated Hours</u> | <u>Hourly Rate</u> | <u>Labor Costs</u> |
|----------------------------|------------------------|--------------------|--------------------|
| Project Manager | 10 | \$155.84 | \$1,558 |
| Senior Landscape Architect | 96 | \$108.08 | \$10,376 |
| Landscape Designer | 134 | \$87.87 | \$11,775 |
| Cadd Technician | 172 | \$75.40 | \$12,969 |
| Administrative | <u>2</u> | <u>\$60.32</u> | <u>\$121</u> |
| Total Hours: | 414 | | 36,799 |

Total Estimated Labor: \$36,799
 Sub-Total: \$36,799

OTHER DIRECT COSTS

(Listed by Item at Estimated Actual Cost - NO MARKUP)

| | |
|----------------------|----------|
| Travel | \$673.20 |
| Outside Reproduction | \$0.00 |

Total Estimated Other Direct Costs: \$673.20

ESTIMATED OUTSIDE SERVICES AND CONSULTANTS

(Listed by Firm or Name at Estimated Cost to you - NO MARKUP)

| <u>Firm</u> | <u>Hours</u> | <u>Cost</u> | <u>Method of Compensation</u> <u>(Spec. Rate; L.S., CPFF, FR)</u> |
|-------------|--------------|-------------|--|
| | 0 | \$0 | L.S. |

Total Estimated Outside Services: \$0

TOTAL ESTIMATED LUMP SUM COST: \$37,472



 Edward C. Corral
 Project Manager

7/9/2019
 Date

July 9, 2019

ESTIMATED HOURS

| TASK DESCRIPTION | Sheets | Hours Per Sheet | Project Manager | SR Landscape Architect | Landscape Designer | Cadd Technician | Administrative | TOTAL |
|---|-----------|-----------------|-----------------|------------------------|--------------------|-----------------|----------------|------------|
| | | | \$155.84 | \$108.08 | \$87.87 | \$75.40 | \$60.32 | |
| 1. Project Management | 0 | | 6 | | - | - | 2 | 8 |
| 2. Project Meetings | 0 | | | 66 | - | - | - | 66 |
| 3. Base Files and mapping | 0 | | | | | 8 | - | 8 |
| 4. 3D Renderings | 10 | | 1 | 8 | 50 | 16 | - | 75 |
| 5. Wall Rustication Concepts and coordination with Artist | | | | 6 | 32 | 4 | - | 42 |
| 6. 60%, 90%, 100% and Final Scaled Construction Documents | 12 | | 2 | 12 | 48 | 144 | - | 206 |
| 7. Quality Control | | | 1 | 4 | 4 | - | - | 9 |
| TOTAL | 22 | 19 | 10 | 96 | 134 | 172 | 2 | 414 |

Assumptions:

WSP to provide CDG with all electronic CADD base files required.

CDG will provide one set of plans for distribution to WSP



**CITY COUNCIL
AGENDA BILL**

**AB 2493
September 24, 2019
Regular Business**

Agenda Item: 8a

Proposed Action & Subject: Public hearing/discussion/possible action regarding a Resolution and Ordinance adopting building code updates and amendments including the 2018 International Building, Residential, Existing Building, Energy Conservation, Plumbing, Mechanical, Fuel Gas, and Swimming Pool and Spa Codes, and the 2017 National Electrical Code.

Department Community Development

Time to Present 20 Minutes

Total Time for Item 1 Hour

Other Council Meetings June 11, 2019

Exhibits

- A. Ordinance
- B. Resolution
- C. Exhibit A to Resolution
- D. List of Latest Changes
- E. Code Sections Affected by Proposed Amendments

| | | |
|-------------------------------|--|---|
| City Attorney Approval | 9/16/2019 SDC | Expenditure Required |
| | | \$ 0 |
| City Manager's Recommendation | Approve updated building codes and amendments. | Amount Budgeted |
| | | \$ 0 |
| | | Account No. N/A (Description) |
| | | Finance <input checked="" type="checkbox"/> Approval |

SUMMARY STATEMENT

Background: The current building codes consist of the 2006 International Code Council (ICC) codes and the 2005 National Electric Code (NEC), all of which were adopted in 2007. The proposal to adopt the 2018 ICC codes and the 2017 NEC is an effort to address the most current construction practices, products, materials and allowances, to be consistent with the surrounding counties and communities, and to address a Council priority. The documents herein address feedback from staff, customers (including a focus group with architects, contractors, and members of the green/sustainable community), and Council via direction received at the City Council Work Session dated June 11, 2019.

Exhibit C of the agenda bill includes all the proposed amendments to the codes to be considered for adoption. Exhibit D provides a synopsis of the changes discussed and directed

at the June 11, 2019 Council Work Session. Exhibit E includes select pages of the various codes where amendments are proposed as a reference for anyone who wants to see broader context of the proposed amendments.

Community Plan Consistent: Yes - No - Not Applicable

Environmental Action Plan, Priority 5, Page 79

Board/Commission Recommendation: Applicable – Not Applicable

Alternative(s): N/A

MOTION

I move to: approve Resolution 2019-___, a Resolution of the Mayor and Council of the City of Sedona, Arizona establishing as a public record proposed amendments to Article 15 of the Sedona City Code.

After 1st reading,

I move to: approve Ordinance 2019-___, an Ordinance of the Mayor and Council of the City of Sedona, Arizona adopting proposed amendments to Article 15 of the Sedona City Code; providing for a savings clause; and providing for repeal of any ordinance or parts of ordinances or code provisions in conflict herewith.

ORDINANCE NO. 2019-__

**AN ORDINANCE OF THE MAYOR AND COUNCIL OF THE CITY OF SEDONA,
ARIZONA, ADOPTING PROPOSED AMENDMENTS TO ARTICLE 15 OF THE
SEDONA CITY CODE; PROVIDING FOR A SAVINGS CLAUSE; AND PROVIDING
FOR REPEAL OF ANY ORDINANCE OR PARTS OF ORDINANCES OR CODE
PROVISIONS IN CONFLICT HEREWITH.**

BE IT RESOLVED BY THE MAYOR AND THE COUNCIL OF THE CITY OF SEDONA,
ARIZONA, THAT:

Section 1. Amendments to Article 15 of the Sedona City Code

That document made a public record by Resolution 2019-__ and entitled "2019 Amendments to Article 15 of the Sedona City Code" is hereby approved.

Section 2. Savings Clause

If any section, subsection, sentence, clause, phrase, or portion of this Ordinance is for any reason held to be invalid or unconstitutional by the decision of any court of competent jurisdiction, such decision shall not affect the validity of the remainder of this Ordinance.

Section 3. Repeal

All other code provisions, ordinances or parts of ordinances in conflict with the provisions of this Ordinance are hereby repealed to the extent of such conflict as of the effective date hereof.

PASSED AND ADOPTED by the Mayor and Council of the City of Sedona, Arizona this 24th day of September, 2019.

Sandra J. Moriarty, Mayor

ATTEST:

Susan L. Irvine, CMC, City Clerk

APPROVED AS TO FORM:

Robert L. Pickels, Jr., City Attorney

RESOLUTION NO. 2019-__

**A RESOLUTION OF THE MAYOR AND COUNCIL OF THE CITY OF SEDONA, ARIZONA,
ESTABLISHING AS A PUBLIC RECORD PROPOSED AMENDMENTS TO ARTICLE 15 OF
THE SEDONA CITY CODE.**

BE IT RESOLVED BY THE MAYOR AND COUNCIL OF THE CITY OF SEDONA, ARIZONA that the terms set forth in that document attached hereto as Exhibit A and entitled "2019 Amendments to Article 15 of the Sedona City Code" constitute a public record to be incorporated by reference into Ordinance No. 2019-__.

At least one (1) paper copy and one (1) electronic copy of this public record shall be kept in the office of the City Clerk for public use and inspection.

PASSED AND ADOPTED by the Mayor and Council of the City of Sedona, Arizona this 24th day of September, 2019.

Sandra J. Moriarty, Mayor

ATTEST:

Susan L. Irvine, CMC, City Clerk

APPROVED AS TO FORM:

Robert L. Pickels, Jr., City Attorney

Exhibit A
2019 Amendments to Article 15 of the Sedona City Code

Chapter 15.05
BUILDING CODE¹

Sections:

- [15.05.010](#) Adoption of the International Building Code.
- [15.05.020](#) Amendments to the International Building Code.
- [15.05.030](#) Adoption of the International Residential Code.
- [15.05.040](#) Amendments to the International Residential Code.
- [15.05.050](#) Conformance to the land development code.
- [15.05.060](#) Building permit fees and valuation.
- [15.05.070](#) Wood burning fireplaces.
- [15.05.080](#) Permitting of wood stoves and similar devices.
- [15.05.090](#) Manufactured homes, factory-built buildings and mobile homes.
- [15.05.100](#) Jurisdiction of other agencies.

15.05.010 Adoption of the International Building Code.

The following document, three copies of which are on file and are available for public inspection in the office of the director of community development, is adopted as the building code of the city of Sedona, Arizona, for regulating the erection, construction, enlargement, alteration, repair, moving, removal, demolition, conversion, occupancy, equipment, use, height, area and maintenance of all buildings or structures in the city; and providing for issuance of permits and collection of fees therefor:

A. International Building Code, 2018 Edition, as amended and codified, published by the International Code Council, Inc.

B. Each and all of the regulations, provisions, conditions and terms of the International Building Code, 2018 Edition, as amended and codified, published by the International Code Council, Inc., are hereby referred to, adopted and made a part of this code as if fully set out in herein, excepting such provisions as hereinafter deleted or amended. [Ord. 98-05, 3-24-1998; Ord. 2007-16, 10-23-2007. Code 2006 § 7-1-1].

15.05.020 Amendments to the International Building Code.

The International Building Code, as adopted, is hereby modified as follows:

A. Section 101.1 Title, is hereby amended by adding the words "City of Sedona" in place of "Name of Jurisdiction".

B. Sections 101.4.1 Gas, 101.4.2 Mechanical, 101.4.3 Plumbing, 101.4.4 Property maintenance, 101.4.6 Energy and 101.4.7 Existing buildings, are hereby amended by adding the following directly after the title of the code:

...,as adopted and amended by the City of Sedona,

[Type here]

C. Section 105.2 Work exempt from permits, Building Item Nos. 1, 2, 4, 9, 10 and 11, relating to Exempted Work, are hereby amended to read:

1. One-story detached buildings used as tool and storage sheds, playhouses or similar uses, provided the projected roof area does not exceed 120 square feet, the building does not exceed 7 feet high at the highest point of the roof or wall, and it has no electrical or plumbing installations.
2. Freestanding fences and walls not supporting a structure, not over 30 inches high, and not located within flood hazard areas as determined by the City or County flood hazard administrative authority.
4. Retaining walls not over 30 inches in height, measured from top of footing to the top of wall, unless supporting a surcharge or impounding Class I, II or IIIA liquids.
9. Prefabricated swimming pools accessory to Group R-3 occupancies, which are less than 18 inches in depth and less than 8 feet in all dimensions and constructed entirely above grade.
10. This item, referring to shade cloth structures, is deleted in its entirety.
11. Swings and other playground equipment.

D. Section 105.7 Placement of permit, is hereby amended by deleting the section in its entirety and substituting the following:

Section 105.7 Placement of permit. The building permit shall be kept on site in a conspicuous place, visible from the public way, and shall be kept on the site of the work until the completion of the project and the issuance of final inspection approval by the City.

E. Section 107.1 General, is hereby amended by the addition of the following paragraphs to the end of the section:

Such documents may be reviewed and approved by other departments of this City and other agencies with jurisdiction in the areas of public health and safety prior to permit issuance, including, but not limited to, the Arizona Department of Environmental Quality, the County Health Department and the County Flood Control District to verify compliance with any applicable laws under their jurisdiction.

The Building Official shall require that contractors be licensed as required by Arizona state law before issuing permits to them. The Building Official shall also require contractors and builders to either be licensed or otherwise retain the services of someone who is properly licensed or certified, as may be necessary to assure the proper installation of building components,

[Type here]

equipment or appliances consistent with the technical codes or the approved installation specifications and standards.

Owners of Property may construct, add to, alter or remodel structures on their property subject to the provisions of Arizona Revised Statutes, Section 32-1121. Violation of the provisions of ARS § 32-1121 shall be cause to commence enforcement proceedings. The Building Official may also report such violations to the Arizona Registrar of Contractors.

F. Section 107.3.1 Approval of construction documents, is hereby amended by adding the following paragraph to the end of the section:

When plans are required, if the Building Official issues a permit, he/she shall endorse in writing or stamp the plans and specifications "Reviewed for Code compliance" which signifies only that said plans may be used in conjunction with a building permit for construction. Any omission or error in said plans shall not be grounds to fail to comply with or waive any city, state or federal requirements. The designer, builder and owner are hereby charged with the responsibility to comply with all said requirements. Approved plans, specifications, building addresses, legal descriptions and permits shall not be changed, modified or altered without authorization from the Building Official, and all work shall be done in accordance with the approved plans, specifications and permits. A land split or subdivision of land made on property for which a building permit has been issued shall be approved by the Director of Community Development prior to recording.

G. Section 110.3.5 Lath, gypsum board and gypsum panel product inspection, is hereby amended by deleting the exception.

H. Section 111.1 Change of occupancy, is hereby amended by inserting the following text after the first sentence of the paragraph:

Every tenant of every building and structure, except Group R-3 and U occupancies associated with Group R-3 uses, and non-occupied Group U occupancies, shall obtain a tenant occupancy permit and a certificate of occupancy prior to opening for business. Tenant occupancy permits and certificates shall be nontransferable from one building to another and from one tenant to another.

I. Section 111.3 Temporary occupancy, is hereby amended by adding the following to the end of the section:

The issuance of Temporary Certificates of Occupancy is not customary, is reviewed by the Director of Community Development after the submittal of a written request identifying the hardship(s) not caused directly or indirectly by the applicant, property owner, design professionals or contractors, and is based solely on incomplete or non-compliant exterior work. Upon approval of the Director of Community Development to allow issuance of a Temporary Certificate of Occupancy, the owner shall submit to the Building Official for review and approval a

[Type here]

letter requesting temporary occupancy for a period of time to be approved by the Building Official and include with the request:

1. An itemization of all work authorized and required by the building and grading permits that must be completed to permanently occupy the building. (Note that said work shall be exterior to the building or structure. Temporary Certificates of Occupancy will not be issued for any work not completed and approved by the City that is interior to the building or structure.)
2. An irrevocable bond or other financial deposit acceptable to the Building Official and payable to the City of Sedona in the event construction is not completed before expiration of the Temporary Certificate of Occupancy. The amount of the bond or deposit shall equal 100 percent of the construction cost to complete the work required by the permits.

For the purpose of this section, construction cost shall include all labor, materials, equipment, sales tax, permit fees and contractors' profit and overhead plus a twenty-five percent (25%) contingency amount for unforeseen construction expenses and City administration in the event the City undertakes completion of the project. The Building Official may require written proposals or estimates from contractors to substantiate the amount of the bond or deposit.

3. The payment of a non-refundable fee for the Temporary Certificate of Occupancy shall be \$300.00 for single-family dwellings and \$500.00 for commercial projects.
4. A written agreement that the bond or deposit is forfeited by the owner to the City in the event all required work is not completed before expiration of the Temporary Certificate of Occupancy and authorization for the City to undertake and complete construction with the forfeited funds.

If the City undertakes completion of the project with the forfeited funds, any unexpended amount shall be returned to the owner or bonding agent as applicable. If costs to complete the project exceed the amount of the bond or deposit, the City may file a lien against the subject property and take appropriate action as necessary to recover all the additional expenses incurred completing the construction.

The Building Official may extend the time period of an original Temporary Certificate of Occupancy or issue one or more additional temporary certificates if conditions beyond the control of the owner prevent project completion by the expiration of the original Temporary Certificate. Extensions and additional temporary certificates shall be requested by the owner before the expiration of the original certificate, and approved by the Building Official in the same manner as the original certificate. The owner shall provide a bond or deposit and pay a new fee for each extension or additional certificate.

EXCEPTION: Public schools are not required to provide a bond or deposit for completion of work or pay temporary certificate fees.

[Type here]

J. Section 113.3 Qualifications, is hereby amended by deleting the section in its entirety and substituting the following:

113.3 Board Composition and Authority. All reviews required of a Board of Appeals shall be delegated to a hearing officer to be appointed in the same manner as such other hearing officers appointed by the City Council to hear appeals to the City of Sedona's Board of Adjustment. The hearing officer(s) appointed pursuant to this section shall have final review authority and no further appeal shall be required by the City of Sedona.

K. Section 114.4, Violation penalties, is hereby amended by adding the following paragraph to the end of the section:

Such person, firm or corporation shall be subject to the penalties as provided in SCC [1.15.010](#) for each and every such violation and non-compliance as a separate offense. Imposition of penalty for a violation of this code shall not excuse the violation or permit it to continue. A violation shall be remedied within a reasonable time, and each day that such violation continues unabated shall constitute a separate offense.

L. Section 115.2 Issuance, is hereby amended by removing the first sentence in its entirety and inserting the following:

A stop work order shall be in writing and shall be given to the owner of the property, to the owner's authorized agent, or to the person performing the work, or shall be posted on the structure or on site in a conspicuous location.

M. Section R115.3 Unlawful continuance, is hereby deleted in its entirety and replaced by the following:

Section R115.3 Unlawful continuance and/or removal of stop work notice. Any person who shall continue or allow the continuance of any work in or about the structure or property after having been served with a stop work order, except such work as that person is directed to perform to remove a violation or unsafe condition, or any person who removes, or causes the removal of, the stop work notice without the consent of the City, shall be subject to fines and penalties as set by the applicable governing authority.

N. Sections 305.2 Group E, day care facilities, and 308.5 Institutional Group I-4, day care facilities, are hereby amended by adding the following exception:

A "child care group home" complying with the requirements ARS 36-897 and providing child care for less than 24 hours per day for not less than five (5) children but no more than ten (10) children through the age of twelve years shall be classified as Group R-3, provided that all child care rooms are located on the level of exit discharge and each child care room has an exit door directly to the exterior.

[Type here]

O. Section 502.1, Address identification, is hereby amended by adding the following paragraph to the end of the section:

In addition to the requirements stated herein, building addressing and display shall comply with SCC [12.20.070](#). Building addresses placed on building permits and Certificates of Occupancy shall not be changed unless approved by the City Engineer pursuant to Chapter [12.20](#) SCC.

P. Section 901.2, Fire protection systems, is hereby amended by deleting the first paragraph and replacing said paragraph with the following:

Fire protection systems shall be designed, installed, repaired, operated, tested and maintained in accordance with this code and the Sedona Fire District's adopted regulations, codes and amendments. Where there is a conflict between this code and those of the Sedona Fire District, the more restrictive of those regulations, codes, and amendments shall apply.

Q. Section 903.2, Where required, is hereby amended by adding the following paragraph to the end of the section:

Approved automatic sprinkler systems shall also be designed and provided in accordance with the adopted and amended codes and regulations of the Sedona Fire District, and all plan review and inspections for said systems will be done by the Sedona Fire District.

R. Section 907.2.10.1 Group R-1, is hereby amended by deleting the section in its entirety and substituting the following:

Section 907.2.11.1 Group R-1. Single- or multiple-station smoke alarms shall be installed in all of the following locations in Group R-1:

1. In sleeping areas.
2. In every room in the path of the means of egress from the sleeping area to the door leading from the sleeping unit.
3. In each story within the sleeping unit, including basements. For sleeping units with split levels and without an intervening door between the adjacent levels, a smoke alarm installed on the upper level shall suffice for the adjacent lower level provided that the lower level is less than one full story below the upper level, and that the smoke alarm is installed on the ceiling in close proximity of the stairs.
4. In sleeping units where the ceiling height of a room open to the hallway serving the bedrooms exceeds that of the hallway by twenty-four inches (24") or more, smoke detectors shall be installed in the hallway and in the adjoining room.

S. Section 907.2.10.2 Groups R-2, R-3, R-4 and I-4, is hereby amended by adding the following to the end of the section:

[Type here]

4. In sleeping units where the ceiling height of a room open to the hallway serving the bedrooms exceeds that of the hallway by twenty-four inches (24") or more, smoke detectors shall be installed in the hallway and in the adjoining room.

T. Section 1008.1 is hereby amended by adding the following sentence to the end of the first sentence:

In addition, emergency illumination shall be required in non-residential occupancies where deemed necessary by the Building Official.

U. Section 1015.2 Where required, is hereby amended by deleting "30 inches (762 mm)" from the first sentence and replacing it with "20 inches (508 mm)".

V. Section 1612.3 Establishment of flood hazard areas, is modified by deleting the section in its entirety and replacing it with the following:

1612.3 Establishment of flood hazard areas. Flood hazard areas and regulations shall be established by the appropriate, governing County or City agency having flood management jurisdiction. Where the requirements of this section conflict with the flood hazard regulations adopted by the appropriate, governing County or City agency having flood management jurisdiction, the regulations of the governing County or City agency shall apply.

W. Section 1807.1.6 Prescriptive design of concrete and masonry foundation walls is hereby amended by adding the following to the end of the sentence:

... provided that the minimum vertical reinforcement for any concrete or masonry foundation wall shall be a #4 spaced not more than 48 inches on center. Un-reinforced concrete (PC) is not permitted.

X. Section 2901.1 Scope, is hereby amended by deleting the third sentence in its entirety and replacing it with the following:

Plumbing systems and equipment shall be designed, constructed and maintained in accordance with the International Plumbing Code. Private sewage disposal systems shall conform to the requirements of the applicable State or County governing authority.

Y. Section 3109.1 General, is hereby amended by adding the following to the end of the sentence:

...and all applicable state and county regulations including Arizona Statute A.R.S. 36-1681.

[Type here]

15.05.030 Adoption of the International Residential Code.

The following document, three copies of which are on file and are available for public inspection in the office of the director of community development, is hereby adopted as the building code of the city of Sedona, Arizona, for regulating the erection, construction, enlargement, alteration, repair, moving, removal, demolition, conversion, occupancy, equipment, use, height, area and maintenance of all one- and two-family dwellings and townhouses and associated buildings or structures in the city; and providing for issuance of permits and collection of fees therefor:

A. International Residential Code, 2018 Edition, as amended and codified, published by the International Code Council, Inc., including the following appendix chapters:

1. Appendix A: Sizing and Capacity of Gas Piping;
2. Appendix B: Sizing of Venting Systems Serving Appliances Equipped With Draft Hoods, Category I Appliances and Appliances Listed For Use With Type B Vents;
3. Appendix C: Exit Terminals of Mechanical Draft and Direct-Vent Venting Systems;
4. Appendix G: Piping Standards for Various Applications;
5. Appendix J: Existing Buildings and Structures;
6. Appendix K: Sound Transmission;
7. Appendix N: Venting Methods;
8. Appendix O: Automatic Vehicular Gates;
9. Appendix P: Sizing of Water Piping System;
10. Appendix Q: Tiny Houses as amended to include the following:

Section AQ106 ADDITIONAL REQUIREMENTS AND ALLOWANCES

Section AQ106.1 Egress door. The main egress door shall be no less than 32" in width.

Section AQ106.2 Room dimensions. The minimum room dimension of a habitable room, other than the loft or kitchen, shall be 6'-6", and the room area shall be no less than 60 sq.ft.

Section AQ106.3 Foundation. Tiny houses shall be built on, and permanently attached to, full, continuous concrete or masonry foundations.

Section AQ106.4 General. Tiny houses shall comply with all other requirements of the adopted International Residential Code.

[Type here]

11. Appendix R: Light Straw-Clay Construction;
12. Appendix S: Strawbale Construction;
13. Appendix T: Solar-Ready Provisions – Detached One- And Two-Family Dwellings And Townhouses;.

B. Each and all of the regulations, provisions, conditions and terms of the International Residential Code, 2018 Edition, as amended and codified, published by the International Code Council, Inc., are hereby referred to, adopted and made a part of this code as if fully set out in herein, excepting such provisions as hereinafter deleted or amended. [Ord. 2007-16, 10-23-2007. Code 2006 § 7-1-3].

15.05.040 Amendments to the International Residential Code.

The International Residential Code, as adopted, is hereby modified as follows:

A. Section R101.1 Title, is hereby amended by adding the words "City of Sedona" in place of "Name of Jurisdiction".

B. Section R101.2 is hereby amended by adding the following new section:

R101.2.1 Fences, yard walls and retaining walls. Fences, yard walls and retaining walls shall be designed in accordance with the minimum requirements of the City of Sedona prescriptive fence, wall and retaining wall details located within the City of Sedona Fence Building Permit Packet or the design of such structures shall be supported by structural calculations performed by an Arizona registered design professional approved to perform structural design.

C. Section R104.10.1 Flood hazard areas, is hereby deleted in its entirety.

D. Section R105.2 Exempted work, Item Nos. 1, 2, 5 and 7, are hereby amended to read:

1. One-story detached buildings used as tool and storage sheds, playhouses or similar uses, provided the projected roof area does not exceed 120 square feet, the building does not exceed seven feet (7') high at the highest point of the roof or wall, and it has no electrical or plumbing installations.
2. Fences not over thirty inches (30") high and not located within flood hazard areas as determined by the City or County flood hazard administrative authority.
3. Retaining walls not over thirty (30") measured from the top of footing to the top of wall and not support any structures or located within flood hazard areas as determined by the City or County flood hazard administrative authority.
7. Prefabricated swimming pools accessory to Group R-3 occupancies which are less than 18 inches in depth or less than 8 feet in any dimension and constructed entirely above grade.

[Type here]

10. Decks not exceeding 100 square feet in area, that are less than 20 inches above grade at any point, are not attached to a dwelling, do not have stairs or steps and do not serve the exit door required by Section R311.2.

E. Section R105.3.1.1 Determination of substantially improved or substantially damaged existing buildings in flood hazard areas, is hereby amended by deletion in its entirety and substituting the following:

Reconstruction, rehabilitation, additions, alteration, repair, relocation or other improvements to buildings or structures located in flood hazard areas as established by Table R301.2(1), shall comply with the regulations and requirements of the appropriate, governing County or City authority.

F. Section R105.5 Expiration, is hereby amended by adding the following to the end of the first sentence:

Lack of a scheduled and performed qualified inspection within 180 days constitutes a suspension or abandonment of work, and therefore an expiration of the permit.

G. Section R105.7 Placement of permit, is hereby amended by deleting the section in its entirety and substituting the following:

Section 105.7 Placement of permit. The building permit shall be kept on site in a conspicuous place, visible from the public way, and shall be kept on the site of the work until the completion of the project and the issuance of final inspection approval by the City.

H. Section R106.1.1 Information on construction documents, is hereby amended by adding the following to the end of the section:

All text, numbers, symbols, lines, shading, etc. shall be clear, well defined, sized and properly weighted so as to be clearly legible, and plan sheets shall be no larger than 30" x 42" in size.

I. Section R106.3 Examination of documents, is hereby amended by adding the following to the end of the section:

The application and construction drawings may be reviewed and approved by other departments of this City and other agencies with jurisdiction in the areas of public health and safety prior to permit issuance, including, but not limited to, the Arizona Department of Environmental Quality, the County Health Department and the County Flood Control District to verify compliance with any applicable laws under their jurisdiction.

The Building Official shall require that contractors be licensed as required by Arizona state law before issuing permits to them. The Building Official shall also require contractors and builders to either be licensed or otherwise retain the services of someone who is properly licensed or certified, as may be necessary to assure the proper installation of building components,

[Type here]

equipment or appliances consistent with the technical codes or the approved installation specifications and standards.

Owners of Property may construct, add to, alter or remodel structures on their property subject to the provisions of Arizona Revised Statutes, Section 32-1121. Violation of the provisions of ARS § 32-1121 shall be cause for the Building Official to commence enforcement proceedings. The Building Official may also report such violations to the Arizona Registrar of Contractors.

J. Section R108.2 Schedule of permit fees, is hereby amended by adding the following to the end of the section:

Fees, valuations, plan review deposits and refunds that are within the scope of this Section shall be assessed in accordance with the provisions of this section and as set forth in SCC [15.05.060](#).

K. Section R109.1.3 Floodplain inspections, is hereby amended by adding the following to the end of the paragraph:

Inspections for the reconstruction, rehabilitation, additions, alteration, repair, relocation or other improvements to buildings or structures located in flood hazard areas as established by Table R301.2(1), shall comply with the regulations and requirements of the appropriate, governing County or City authority.

L. Section R110.4, Temporary occupancy, is amended by adding the following to the end of the section:

The issuance of Temporary Certificates of Occupancy is not customary, is reviewed by the Director of Community Development after the submittal of a written request identifying the hardship(s) not caused directly or indirectly by the applicant, property owner, design professionals or contractors, and is based solely on incomplete or non-compliant exterior work. Upon approval of the Director of Community Development to allow issuance of a Temporary Certificate of Occupancy, the owner shall submit to the Building Official for review and approval a letter requesting temporary occupancy for a period of time to be approved by the Building Official and include with the request:

1. An itemization of all work authorized and required by the building and grading permits that must be completed to permanently occupy the building. (Note that said work shall be exterior to the building or structure. Temporary Certificates of Occupancy will not be issued for any work not completed and approved by the City that is interior to the building or structure.)
2. An irrevocable bond or other financial deposit acceptable to the Building Official and payable to the City of Sedona in the event construction is not completed before expiration of the Temporary Certificate of Occupancy. The amount of the bond or deposit shall equal 100 percent of the construction cost to complete the work required by the permits.

[Type here]

For the purpose of this section, construction cost shall include all labor, materials, equipment, sales tax, permit fees and contractors' profit and overhead plus a twenty percent (25%) contingency amount for unforeseen construction expenses and City administration in the event the City undertakes completion of the project. The Building Official may require written proposals or estimates from contractors to substantiate the amount of the bond or deposit.

3. The payment of a non-refundable fee for the Temporary Certificate of Occupancy shall be \$300.00 for single-family dwellings and \$500.00 for commercial projects.

4. A written agreement that the bond or deposit is forfeited by the owner to the City in the event all required work is not completed before expiration of the Temporary Certificate of Occupancy and authorization for the City to undertake and complete construction with the forfeited funds.

If the City undertakes completion of the project with the forfeited funds, any unexpended amount shall be returned to the owner or bonding agent as applicable. If costs to complete the project exceed the amount of the bond or deposit, the City may file a lien against the subject property and take appropriate action as necessary to recover all the additional expenses incurred completing the construction.

The Building Official may extend the time period of an original Temporary Certificate of Occupancy or issue one or more additional temporary certificates if conditions beyond the control of the owner prevent project completion by the expiration of the original Temporary Certificate. Extensions and additional temporary certificates shall be requested by the owner before the expiration of the original certificate, and approved by the Building Official in the same manner as the original certificate. The owner shall provide a bond or deposit and pay a new fee for each extension or additional certificate.

EXCEPTION: Public schools are not required to provide a bond or deposit for completion of work or pay temporary certificate fees.

M. Section R112.3, Qualifications, is hereby deleted and replaced with the following:

R112.3 Board Composition and Authority. All reviews required of a Board of Appeals shall be delegated to a hearing officer to be appointed in the same manner as such other hearing officers appointed by the City Council to hear appeals to the City of Sedona's Board of Adjustment. The hearing officer(s) appointed pursuant to this section shall have final review authority and no further appeal shall be required by the City of Sedona.

N. Section R114.1 Notice to owner or the owner's authorized agent, is hereby amended by adding the following to the end of the section:

Posting of the Stop Work order on the structure or property in question is deemed proper notification to the owner or owner's authorized agent.

[Type here]

O. Section R114.2 Unlawful continuance, is hereby deleted in its entirety and replaced by the following:

Section R114.2 Unlawful continuance and/or removal of stop work notice. Any person who shall continue or allow the continuance of any work in or about the structure or property after having been served with a stop work order, except such work as that person is directed to perform to remove a violation or unsafe condition, or any person who removes, or causes the removal of, the stop work notice without the consent of the City, shall be subject to penalties as prescribed by law and City Code.

P. The design criteria required of Table R301.2(1) are established as follows:

| Ground Snowload | Speed (mph) | Seismic Design Category | Subject to Damage From | | | | Winter Design Temperature | Flood Hazards |
|-----------------|-----------------|-------------------------|------------------------|------------------|-------------------|----------------|---------------------------|---------------|
| | | | Weathering | Frost Line Depth | Termite | Decay | | |
| 25 psf | 115 mph Vult | C | Moderate | 12" | Moderate to Heavy | None to Slight | 16 | *** |

*** Flood hazard areas shall be designated and regulated by the adopted regulations of the appropriate, governing county or city agency having flood management jurisdiction.

Q. Section R302.2.6 Structural independence, is hereby amended by adding the following to the end of the first sentence:

The common wall separating townhouses shall not be used for gravity load bearing purposes including the support of joists or trusses.

R. Section R302.3 Two-family dwellings, is hereby amended by deleting "1-hour" in the first sentence and replacing it with "2-hour".

S. Section R302.3 Two-family dwellings, is hereby amended by deleting "1/2 hour" in Exception 1 and replacing it with "1-hour".

T. Section R302.3 Two-family dwellings, is hereby amended by deleting Exception 2 in its entirety.

U. R312.1.1 Where required, is hereby amended by replacing "30 (762 mm)" in the first sentence with "20 (508 mm)".

V. R314.3 Location, is hereby amended by adding the following to the end of the section:

5. In dwelling units where the ceiling height of a room open to the hallway serving the bedrooms exceeds that of the hallway by twenty-four inches (24") or more, smoke detectors shall be installed in the hallway and in the adjoining room.

[Type here]

W. Section R322.1 General, is hereby modified by adding the following sentence to the end of the first paragraph:

Where the requirements of this section conflict with the flood hazard regulations adopted by the appropriate, governing County or City agency having flood management jurisdiction, the regulations of the governing County or City agency shall apply.

X. Section R326.1, General, is hereby amended by adding the following to the end of the first sentence:

... and all applicable state and county regulations including Arizona Statute A.R.S. 36-1681.

Y. Section R403.1.1 Minimum size, is hereby amended by adding the following to the end of the fifth sentence:

... and shall not be less than 18" x 18" in width and 12" in height.

Z. Section R403.1.1 Minimum size, is hereby amended by adding the following subsection:

R403.1.1.1 Minimum footing reinforcement. Continuous spread concrete footings shall be reinforced with at least two #4 horizontal reinforcement bar located 3 inches from the bottom of the footing. Monolithic interior and exterior concrete footings shall be reinforced with at least two #4 horizontal located 3 inches from the bottom of the footing and one #4 located 3 inches from the top of the slab. Pier and column footings shall be reinforced with #4 horizontal reinforcement spaced no more than 12 inches in each direction and located 3 inches from the bottom of the footing.

AA. Table R404.1.1(1) Plain Masonry Foundation Walls, is hereby amended by deleting the table in its entirety.

BB. Section R404.1.2.1, Masonry foundation walls is hereby amended by deletion in its entirety and substituting the following:

Masonry foundation walls. Concrete masonry foundation walls shall be constructed as set forth in Tables R404.1.1(2), (3) and (4) for the most restrictive soil class (unless a soils report is provided that shows that the site consists of a different soils class.) and shall also comply with the provisions of this section. Rubble stone masonry walls are not permitted.

CC. Section R404.1.3.2 Reinforcement for foundation walls, is hereby amended by adding the following to the end of the paragraph:

Concrete foundation walls, including insulating concrete form (ICF) foundation walls, shall be constructed as set forth in Tables R404.1.2(2) through R404.1.2(8) for the most restrictive design soil class (unless a soils report is provided that shows that the site consists of a different soils class) provided that PC in the table represents a minimum vertical reinforcement of #4 at

[Type here]

forty-eight inches (48") oc. PC or Plain Unreinforced Concrete is not permitted. Concrete foundation walls shall also comply with the provisions of this section and the applicable provisions of sections R402.2 and R612.

DD. Section R404.1.8 Rubble stone masonry, is hereby deleted in its entirety.

EE. Section R404.2 Wood foundation walls, is hereby deleted in its entirety.

FF. Section M1602.2 Return air openings, is hereby amended by adding the following to the end of the section:

8. Return air shall be provided through the use of approved ducts, plenums, transfer ducts and transfer grills. Return air shall not be provided through the use of under-door cuts or openings.

GG. Section G2417.4.1 (Section 406.4.1) Test pressure, is hereby amended by deleting "3 psig (20kPa gauge)" and replacing with "10 psig".

HH. Section P2801.1 Required, is hereby amended by adding the following sentence to the end of the section:

All new R-3 occupancies shall have a hot water recirculating system installed.

II. Section E3406.2 Conductor material, is hereby amended by deleting the section in its entirety and substituting the following:

Section E3406.2 Conductor material. Conductors used to conduct current and regulated by this code shall be of copper. All references to the contrary are hereby deleted from this code.

JJ. Section E3901 Receptacle Outlets, is hereby amended by adding the following new section:

Section E3901.13 EV-Ready outlet. An approved conduit of no less than $\frac{3}{4}$ " in diameter shall be installed from the service panel to an approved and covered junction box located in the garage or carport area and sized to allow the installation of a 240-volt receptacle. All junction boxes installed as part of the EV-ready conduit system shall be labeled as "EV Use".

KK. Appendix T, Section T103.6 Capped roof penetration sleeve, is hereby amended by deleting the section in its entirety and substituting the following:

Section T103.6 Preinstalled PV-ready conduit. An approved conduit of no less than $\frac{3}{4}$ " in diameter shall be installed from the service panel to an approved and covered junction box located in an area adjacent to or in an accessible attic directly beneath the required solar-ready zone. All junction boxes installed as part of the PV-ready conduit system shall be labeled as "PV Use".

[Ord. 2007-16, 10-23-2007. Code 2006 § 7-1-4].

[Type here]

15.05.050 Conformance to the land development code.

Whenever a building permit is issued and a building inspection performed, such building shall conform to the provisions of the city land development code in addition to the provisions of SCC [2.60.020](#), Chapters [5.30](#), [8.30](#), [12.05](#), [12.15](#), [12.20](#), [12.25](#) and [14.10](#) SCC and this title. [Ord. 98-05, 3-24-1998; Ord. 2007-16, 10-23-2007. Code 2006 § 7-1-5].

15.05.060 Building permit fees and valuation.

A. Plan Review Payment. At the time of submitting plans, specifications or other data for plan review, the full amount of the plan review fee shall be collected by the director of community development for each permit application as set forth in the City of Sedona Consolidated Fee Schedule, Valuation/Permit Fee Schedule.

B. Building Valuations. Building construction and unit construction valuations, for the purpose of calculating building permit fees, shall be determined by the director of community development in accordance with the City of Sedona Consolidated Fee Schedule, Valuation & Fee Schedule and/or Unit Construction Valuations, or may be based upon the applicant's submitted construction valuation if items listed in the City of Sedona Consolidated Fee Schedule are not applicable to the proposed work.

C. Building Permit Fees. Building permit fees based upon construction valuations shall be calculated in accordance with the City of Sedona Consolidated Fee Schedule, Valuation/Permit Fee Schedule. Building permit fees for individual items of construction shall be calculated in accordance with the City of Sedona Consolidated Fee Schedule, Unit Permit Fees, when the fees are not based upon the construction valuation.

D. Plan Review Fees. The plan review fee shall be 65 percent of the building permit fee stipulated in this section when the building permit fee is based upon the construction valuation. The plan review fee is a separate fee from the building permit fees specified in this section and is in addition to the building permit fees. Where plans are incomplete or changed so as to require additional plan review, an additional plan review fee shall be charged at the rate specified in this section.

E. Fee Refunds.

1. The building official may authorize the refunding of any fee collected pursuant to this section that was erroneously paid or collected.

2. The building official may authorize refunding of not more than 80 percent of the building permit fee paid when no work has been done under the permit issued in accordance with this code; not more than 70 percent of the building permit fee after foundation construction has commenced; and not more than 50 percent of the building permit fee after framing or above-grade wall construction has commenced. No building permit fee shall be refunded after the framing or above-grade wall construction has been inspected and approved.

[Type here]

3. The building official may authorize refunding of not more than 80 percent of the plan review fee when a permit application for which a plan review fee was paid is canceled or withdrawn before any plan review is commenced; no plan review fee shall be refunded after an initial plan review has been completed or the permit application has been approved for issuance.

[Ord. 98-05, 3-24-1998; Ord. 2007-04, 4-24-2007; Ord. 2009-05, 5-12-2009; Ord. 2009-06, 5-12-2009. Code 2006 § 7-1-6].

15.05.070 Wood burning fireplaces.

A. Definitions. For purposes of this section, the following definitions shall apply unless the context clearly indicates or requires a different meaning:

“Alternative fuel” means natural gas, propane, electric or other nonsolid fuel.

“Solid fuel” means wood, or any compressed wood or fiber product, including coal, other solid hydrocarbons or compounds, oil and combustible pellets, or solids of any composition.

“Wood burning fireplace” means an open fireplace within buildings or structures that will burn wood or other solid fuel.

B. Abatement.

1. After the effective date of the ordinance codified in this section, no person within the city of Sedona, Arizona, shall place, install or fabricate in place a wood burning fireplace.

2. In order to receive a final occupancy permit for any structure, any new fireplace must be equipped with an operable alternative fuel device.

3. Wood burning fireplaces in existence prior to the effective date of the ordinance codified in this section will be exempt from the provisions of this section.

C. Violations and Penalties. The owner of any property subject to this section, wherein such fireplace was reconverted to wood burning in contravention of this section, will be subject to a \$500.00 fine and be required to convert to alternative fuel or seal the fireplace within 90 days from notice of violation. Failure to comply within 90 days will result in an additional \$500.00 fine each day the violation continues to exist.

D. Effective Date. This section is effective on August 11, 2003. [Ord. 2003-08, 5-13-2003; Ord. 2007-16, 10-23-2007. Code 2006 § 7-1-7].

15.05.080 Permitting of wood stoves and similar devices.

A. Definitions. For the purpose of this section, the following definitions shall apply unless the context clearly indicates or requires a different meaning. In the event that a definition set forth herein is unclear or raises a conflict, the applicable definitions set forth by the United States Environmental Protection Agency shall prevail in construing this section.

[Type here]

“Certified device” means a wood stove or fireplace insert which has been certified in accordance with minimum Phase II standards adopted by the United States Environmental Protection Agency. If it cannot be verified by the director of community development that a wood stove or fireplace insert has been certified, then it is deemed uncertified.

“Cook stove” means a wood stove installed in the kitchen which is primarily designed for cooking and has a stove top and an oven, or a stove which is equipped with gas burners for cooking. Cook stoves are exempt from compliance with subsections (B) and (C) of this section.

“Fireplace” means a hearth, fire chamber and chimney, and includes:

1. “Factory-built fireplace” means a fireplace composed of listed factory-built components assembled in accordance with the terms of listing to form the completed fireplace.
2. “Masonry fireplace” means a hearth and fire chamber of solid masonry units such as bricks, stones, masonry units or reinforced concrete, provided with a suitable chimney.

“Fireplace insert” means a factory-built, field-installed product consisting of a firebox assembly designed to be installed within or partially with the fire chamber of a fireplace, which uses the fireplace flue to vent the products of combustion.

“Pellet stove” means a solid fuel burning appliance designed to heat the interior of a building. It is a forced draft heater with an automatic feed which supplies appropriately sized feed material of compressed wood pellets or other biomass material to the firebox.

“Solid fueled burning appliance” means a chimney-connected device that burns solid fuel and which is designed for purposes of heating, cooking or both.

“Stove kit” means a kit that may include a door, legs, flue pipe and collars, brackets, bolts and other hardware and instructions for assembling a wood heater with ordinary tools.

“Structure” means that which is built or constructed, an edifice or building of any kind, or any piece of work artificially built up or composed of parts joined together in some definite matter.

“Wood heater” means an enclosed wood burning appliance capable of and intended for space heating, domestic water heating or indoor cooking which has an air-to-fuel ratio of less than 35:1 in the low burn cycle. It also shall have a usable firebox volume less than 20 cubic feet weight, less than 800 kilograms, and a minimum burn rate less than five kilograms per hour. Appliances that are described as factory-built fireplaces and are designed to accommodate doors or other accessories which would create the air-starved operating conditions of a wood heater are deemed to be wood heaters if they meet the criteria in the above definition with those accessories in place.

“Wood stove” means, for purposes of compliance with subsections (B) and (C) of this section, a solid fuel burning appliance which may be a wood heater or pellet stove, or an appliance with doors or other items

[Type here]

which cause a fireplace to function as a wood heater. Wood stoves do not include exempt fireplaces, barbecue devices, gas-fired fireplaces or cook stoves.

B. General Standard. Commencing June 30, 1992, it is unlawful for any person to advertise, sell, offer to sell, install or replace any wood stove or fireplace insert in any structure within the city which is not a certified device. Wood heaters built from stove kits are subject to this standard. Fireplaces that have not been modified to create an air-starved operating condition are exempt from this standard.

C. Installation.

1. Commencing June 30, 1992, no person shall install or replace a wood stove or fireplace insert with a certified device within the city without first obtaining a permit from the director of community development for such installation in accordance with the applicable provisions of the International Building Code and International Mechanical Code adopted by the city.

2. Commencing June 30, 1992, installation or replacement of a wood stove or fireplace insert within the city shall comply with all written manufacturer's specifications. A wood stove or fireplace insert shall not be operated until after its inspection and approval, upon completion, by the director of community development or his designee.

3. Wood heaters built from stove kits are subject to the requirements of this subsection. Fireplaces that have not been modified to create an air-starved operating condition are exempt from the requirements of this subsection. [Ord. 2007-16, 10-23-2007. Code 2006 § 7-1-8].

15.05.090 Manufactured homes, factory-built buildings and mobile homes.

Definitions. For the purpose of the City Code, the following definitions shall apply unless the context clearly indicates or requires a different meaning:

"Factory-built building" means a residential or nonresidential building (including a dwelling unit or habitable room) which is wholly or in substantial part manufactured at an off-site location to be assembled on site, except that it does not include a manufactured home, recreational vehicle or mobile home as defined in this section.

"Manufactured home" means a structure built in accordance with the National Manufactured Home Construction and Safety Standards Act of 1974 and Title VI of the Housing and Community Development Act of 1974, as implemented by the Arizona Office of Manufactured Housing pursuant to A.R.S. Title 41, Chapter 16.

"Mobile home" means a structure built prior to June 15, 1976, on a permanent chassis, capable of being transported in one or more sections and designed to be used with or without a permanent foundation as a dwelling when connected to on-site utilities, except it does not include recreational vehicles or factory-built buildings.

[Type here]

“Recreational vehicle” means a vehicle-type unit which is:

1. A portable camping trailer mounted on wheels and constructed with collapsible partial side walls which fold for towing by another vehicle and unfold for camping;
2. A portable truck camper constructed to provide temporary living quarters for recreational, travel or camping use, and consisting of roof, floor and sides designed to be loaded onto and unloaded from the bed of a pickup truck;
3. A travel trailer mounted on wheels, designed to provide temporary living quarters for recreational, camping or travel use, and which has an area less than 320 square feet when measured to the exterior of the unit. This definition includes fifth wheel trailers;
4. A motor home designed to provide temporary living quarters for recreational, camping or travel use and built on or permanently attached to a self-propelled motor vehicle chassis or on a chassis cab or van that is an integral part of the completed vehicle;
5. A park trailer built on a single chassis, mounted on wheels and designed to be connected to utilities necessary for operation of installed fixtures and appliances, and has a gross trailer area of not less than 320 square feet and not more than 400 square feet when it is set up, except it does not include fifth wheel trailers. Area measurements shall be taken on the exterior of the unit. [Ord. 98-05, 3-24-1998; Ord. 2007-16, 10-23-2007. Code 2006 § 7-1-9].

15.05.100 Jurisdiction of other agencies.

Permits issued under the requirements of this chapter shall not relieve the owner of responsibility for securing required permits for work which is regulated by any other department or division of the city or other governing agency, or any other city code provision or ordinance. A grading permit shall not be issued until all required permits are obtained from the Arizona Department of Environmental Quality, the county health department, the county flood control district and other agencies with regulatory jurisdiction. [Ord. 2007-16, 10-23-2007. Code 2006 § 7-1-10].

Editorial note: See Ordinances 90-01, 91-22, 92-01, 93-09, 93-22, 98-05, 2007-04 and 2007-16.

[Type here]

Chapter 15.10 INTERNATIONAL PLUMBING CODE

Sections:

[15.10.010](#) Adoption of International Plumbing Code.

[15.10.020](#) Amendments to International Plumbing Code.

15.10.010 Adoption of International Plumbing Code.

That certain document, three copies of which are on file and available for public inspection in the office of the director of community development, entitled International Plumbing Code, 2018 Edition, as amended and codified, published by the International Code Council and including appendix chapters:

Appendix B – Rates of Rainfall for Various Cities;

Appendix C – Structural Safety;

Appendix D – Degree Day and Design Temperatures;

Appendix E – Sizing of Water Piping System;

is hereby adopted as the International Plumbing Code of the city, excepting such portions as are hereinafter deleted or amended. [Ord. 98-05, 3-24-1998; Ord. 2007-16, 10-23-2007; Ord. 2008-05, 6-10-2008. Code 2006 § 7-2-1].

15.10.020 Amendments to International Plumbing Code.

The International Plumbing Code, 2018 Edition, is hereby modified as follows:

A. Section 101.1 Title, is hereby amended by replacing "Name of Jurisdiction" with "City of Sedona".

B. Section 106.5.3 Expiration, is hereby amended by adding the following to the end of the first sentence:

Lack of a scheduled and performed inspection within 180 days constitutes a suspension or abandonment of work, and therefore an expiration of the permit.

C. Section 106.5.4 Extensions, is amended by deleting the last sentence in its entirety.

D. Sections 106.6.2 Fee Schedule, and 106.6.3, Fee Refunds, are amended by deleting both sections in their entirety and inserting the following:

Fees and refunds shall be assessed in accordance with SCC [15.05.060](#).

E. Section 108.4 Violation penalties, is hereby amended by deleting the section in its entirety and inserting the following:

[Type here]

Section 108.4 Violation penalties. Any person, firm or corporation who shall violate this code shall be subject to the penalties as provided in SCC [1.15.010](#) for each and every such violation and non-compliance as a separate offense. Imposition of penalty for a violation of this code shall not excuse the violation or permit it to continue. A violation shall be remedied within a reasonable time, and each day that such violation continues unabated shall constitute a separate offense.

F. Section 108.5 Stop work orders, is hereby amended by deleting the last sentence in its entirety and inserting the following:

Any person, firm or corporation who removes a stop work order without authorization from the Building Official, or who shall continue any work in or about the structure after having been served a stop work order, or where a stop work order has been posted, except such work as that person, firm or corporation is directed to perform to remove a violation or unsafe condition, shall be subject to the penalties as provided in SCC [1.15.010](#) for each and every such violation and non-compliance as a separate offense. Imposition of penalty for a violation of this code shall not excuse the violation or permit it to continue. A violation shall be remedied within a reasonable time, and each day that such violation continues unabated shall constitute a separate offense.

G. Section 109 Means of Appeal, is hereby amended by deleting the section in its entirety and inserting the following:

Section 109 Means of Appeal. Appeals of decisions made by the code official shall be to the Board of Appeals as established in the 2018 International Building Code as amended by the City of Sedona.

H. Section 312.2 Drainage and vent water test, is hereby amended by adding the following to the end of the paragraph :

All pre-slab or underslab plumbing shall be tested with a five pound air test exclusively.

I. Section 403.2 Separate facilities, is hereby amended by adding the following new exception to the end of the section:

5. Separate facilities for each sex shall not be required in any occupancy or structure where the total number, type and design of fixtures required by Table 403.1 of this code, Section 1109.2.1 of the International Building Code and Chapters 2 and 6 of the most current ADA Standards for Accessible Design can be met by the use of single-user toilet facilities and bathing room facilities.

J. Section 504.6 Requirements for discharge piping, is hereby amended by adding the following to the end of Item No. 5:

Where discharging outdoors, discharge piping shall be no less than six inches and no greater than 24 inches from grade.

[Type here]

K. Section 714.1 Sewage backflow, is hereby amended by deleting the first sentence in its entirety and replacing with the following:

Where plumbing fixtures are installed on a floor with a finished floor elevation of four inches or less above the elevation of the next upstream manhole in the public sewer, such fixtures shall be protected with a backwater valve installed in the building drain, or horizontal branch serving such fixtures.

L. Section 714.3 Location, is hereby amended by adding the following to the end of the sentence:

Such valves shall be located exterior to the building and a minimum of 10 feet from drainage ways and inlets.

M. Section 903.1 Roof Extension, is hereby amended by replacing "[number]" with "six" in the first sentence.

N. Section 1003.1 Where required, is hereby amended by deleting the section in its entirety and replacing with the following:

Section 1003.1 Where required. Interceptors and separators shall be provided to prevent the discharge of oil, grease, sand and other substances harmful or hazardous to the public sewer, the private sewage system, the sewage treatment plant or process, storm drainage systems and drainage ways.

O. Section 1003.2 Approval, is hereby amended by adding the following to the end of the paragraph:

In addition to the requirements herein, grease interceptors, grease traps, oil separators, and sand interceptors shall comply with SCC Title [13](#).

P. Section 1003.3.5.2 Rate of flow controls, is hereby amended to read:

Number of fixture units x 1.5 min. retention time = gallon capacity of grease trap.

Q. Section 1003.3.5.2 Rate of flow controls, is hereby amended to add to the end of the paragraph:

A four-inch inspection tee fitting shall be installed in the waste line on the outlet side of the interceptor.

[Type here]

R. Section 1302.6.1 Gray water used for fixture flushing, is hereby amended by adding the following to the end of the sentence:

Gray Water Systems, shall also comply with the requirements contained in regulations approved by the Arizona Department of Environmental Quality.

[Ord. 98-05, 3-24-1998; Ord. 2007-16, 10-23-2007; Ord. 2008-05, 6-10-2008. Code 2006 § 7-2-2].

[Type here]

Chapter 15.15 ELECTRICAL CODE

Sections:

[15.15.010](#) Adoption of the National Electrical Code.

[15.15.020](#) Amendments to the National Electrical Code.

15.15.010 Adoption of the National Electrical Code.

That certain code entitled National Electrical Code, 2017 Edition, as amended and codified, published by the National Fire Protection Association, three copies of which are available for public inspection in the office of the director of community development, is adopted as the electrical code of the city, and made a part of this title the same as though set forth in full herein, excepting those portions hereinafter deleted or amended. [Ord. 98-05, 3-24-1998; Ord. 2007-16, 10-23-2007. Code 2006 § 7-3-1].

15.15.020 Amendments to the National Electrical Code.

The National Electrical Code, 2017 Edition, is modified as follows:

A. Article 110.5 Conductors, is hereby amended by deleting the article in its entirety and substituting the following in its place:

Conductors normally used to carry current shall be of copper. All references to the contrary are hereby deleted from this code.

B. Article 310.106(B) Conductor Material, is hereby amended by deleting the article in its entirety and substituting the following in its place:

Conductors in this article shall be of copper. All references to the contrary are hereby deleted from this code.

C. Article 334.10 Uses Permitted, is hereby amended to read:

Type NM, NMC and NMS cable shall be permitted to be used only for branch circuits of Group R-3 one- and two-family dwellings regulated under the scope of the International Residential Code.

[Ord. 98-05, 3-24-1998; Ord. 2007-16, 10-23-2007. Code 2006 § 7-3-2].

[Type here]

Chapter 15.20 MECHANICAL CODE

Sections:

[15.20.010](#) Adoption of the International Mechanical Code.

[15.20.020](#) Amendments to the International Mechanical Code.

15.20.010 Adoption of the International Mechanical Code.

That certain code entitled International Mechanical Code, 2018 Edition, as amended and codified, published by the International Code Council, Inc., three copies of which are available for public inspection in the office of the director of community development, is hereby adopted as the mechanical code of the city and made a part of this title the same as though set forth in full herein, excepting those portions hereinafter deleted or amended. [Ord. 98-05, 3-24-1998; Ord. 2007-16, 10-23-2007. Code 2006 § 7-4-1].

15.20.020 Amendments to the International Mechanical Code.

The International Mechanical Code, 2018 Edition, is modified as follows:

A. Section 101.1 Title, is hereby amended by replacing "Name of Jurisdiction" with "City of Sedona".

B. Section 106.4.3 Expiration, is hereby amended by adding the following to the end of the first sentence:

Lack of a scheduled and performed qualified inspection within 180 days constitutes a suspension or abandonment of work, and therefore an expiration of the permit.

C. Section 106.4.4 Extensions, is hereby amended by deleting the last sentence in its entirety.

D. Sections 106.5.2 Fee Schedule, and 106.5.3, Fee Refunds, are hereby amended by deleting both sections in their entirety and inserting the following:

Fees and refunds shall be assessed in accordance with SCC [15.05.060](#).

E. Section 106.5.3 Fee refunds, is hereby amended by adding the following to the end of the section:

Refunds that are within the scope of this Section shall be assessed in accordance with the provisions of this section and as set forth in SCC [15.05.060](#).

F. Section 107.2 Required inspection and testing, is hereby amended by adding the following new Item 4:

4. A test and balance report(s), performed by a third party, certified test and balance contractor, shall be submitted to the City prior to final inspection. Said test and balance report(s) shall verify compliance of any newly installed or altered ventilation and/or hydronic system(s) and equipment with the approved permit plans, the mechanical code and any applicable standards.

[Type here]

G. Section 108.5 Stop work orders, is hereby amended by deleting the second sentence and substituting the following:

A stop work order shall be in writing and shall be given to the owner of the property, to the owner's authorized agent, or to the person performing the work, or shall be posted on the structure or on site in a conspicuous location.

H. Section 108.5 Stop work orders, is hereby amended by deleting the fifth sentence and substituting the following:

Any person who shall continue or allow the continuance of any work in or about the structure or property after having been served with a stop work order, except such work as that person is directed to perform to remove a violation or unsafe condition, or any person who removes, or causes the removal of, the stop work notice without the consent of the City, shall be subject to fines and penalties as set by the applicable governing authority.

I. Section 109 Means of Appeal, is hereby amended by deletion in its entirety and substituting the following:

Appeals of decisions made by the code official shall be to the Board of Appeals as established in the 2018 International Building Code as amended by the City of Sedona.

J. Section 506.3.11 Grease duct enclosures, is hereby amended by deleting the Exception in its entirety.

[Ord. 98-05, 3-24-1998; Ord. 2007-16, 10-23-2007. Code 2006 § 7-4-2].

[Type here]

Chapter 15.30 INTERNATIONAL FUEL GAS CODE

Sections:

[15.30.010](#) Adoption of the International Fuel Gas Code.

[15.30.020](#) Amendments to the International Fuel Gas Code.

15.30.010 Adoption of the International Fuel Gas Code.

That certain code entitled International Fuel Gas Code, 2018 Edition, published by the International Code Council, Inc., three copies of which are available for public inspection in the office of the director of community development, is hereby adopted as the fuel gas code of the city and made a part of this title the same as though set forth in full herein, excepting those portions hereinafter deleted or amended. [Ord. 2007-16, 10-23-2007; Ord. 2010-04 § 1, 1-12-2010. Code 2006 § 7-6-1].

15.30.020 Amendments to the International Fuel Gas Code.

The 2018 International Fuel Gas Code is hereby modified as follows:

A. Section 101.1 Title, is hereby amended by replacing "Name of Jurisdiction" with "City of Sedona".

B. Section 106.5.3 Expiration, is hereby amended by adding the following to the end of the first sentence:

Lack of a scheduled and performed qualified inspection within 180 days constitutes a suspension or abandonment of work, and therefore an expiration of the permit.

C. Sections 106.6.2 Fee Schedule, and 106.6.3, Fee Refunds, are hereby amended by deleting both sections in their entirety and inserting the following:

Fees and refunds shall be assessed in accordance with SCC [15.05.060](#).

D. Section 108.5 Stop work orders, is hereby amended by deleting the second sentence and substituting the following:

A stop work order shall be in writing and shall be given to the owner of the property, to the owner's authorized agent, or to the person performing the work, or shall be posted on the structure or on site in a conspicuous location.

E. Section 108.5 Stop work orders, is hereby amended by deleting the fifth sentence and substituting the following:

Any person who shall continue or allow the continuance of any work in or about the structure or property after having been served with a stop work order, except such work as that person is directed to perform to remove a violation or unsafe condition, or any person who removes, or causes the removal of, the stop work notice without the consent of the City, shall be subject to fines and penalties as set by the applicable governing authority.

[Type here]

F. Section 109 Means of Appeal, is amended by deletion in its entirety and substituting the following:

Appeals of decisions made by the code official shall be to the Board of Appeals as established in the 2018 International Building Code as amended by the City of Sedona.

G. Section 404.12 Minimum burial depth, is hereby amended by adding the following to the end of the paragraph:

However, in cases other than that specified in Section 404.12.1, underground plastic piping systems shall be installed a minimum depth of 18 inches below grade to the top of the pipe.

H. Section 404.12.1 Individual outdoor appliances, is hereby amended by adding the following to the end of the paragraph:

However, in such cases, underground plastic piping systems shall be installed a minimum depth of 12 inches to the top of the pipe or in accordance with the manufacturer's installation guidelines, whichever is deeper.

I. Section 406.4 Test pressure measurement, is hereby amended by adding the following to the end of the paragraph:

Where the test pressure requirement is 10 psig or less the test pressure measurement shall be a gauge having a reading of one tenth of a pound per square inch (0.10 psi) increments.

J. Section 406.4.1 Test pressure, is hereby amended by deleting "3 psig (20kPa gauge)" and replacing with "10 psig".

K. Section 409.3.2 Individual Buildings, is hereby amended by deleting in its entirety and substituting the following:

Section 409.3.2, Individual Buildings. Gas piping shall be equipped with separate shutoff valves located at each building and so arranged that the gas supply can be turned on or off to any individual or separate building. Such shutoff shall be placed on the riser located outside the building it supplies and shall be readily accessible at all times. [Ord. 2007-16, 10-23-2007; Ord. 2010-04 § 1, 1-12-2010. Code 2006 § 7-6-2].

[Type here]

Chapter 15.40 INTERNATIONAL EXISTING BUILDING CODE

Sections:

[15.40.010](#) Adoption of the International Existing Building Code.

[15.40.020](#) Amendments to the International Existing Building Code.

15.40.010 Adoption of the International Existing Building Code.

That certain code entitled International Existing Building Code, 2018 Edition, as amended and codified, published by the International Code Council, Inc., three copies of which are available for public inspection in the office of the director of community development, is hereby adopted as the existing building code of the city and made a part of this title the same as though set forth in full herein, excepting those portions hereinafter deleted or amended.

15.40.020 Amendments to the International Existing Building Code.

The International Existing Building Code, 2018 Edition, is modified as follows:

- A. Section 101.1 Title, is hereby amended by replacing "Name of Jurisdiction" with "City of Sedona".
- B. Section 105.2 Work exempt from permit, is hereby amended by deleting Building Item 4 in its entirety.
- C. Section 108.2 Schedule of permit fees, is hereby amended by deleting the section in its entirety and inserting the following:

The fees for activities and services performed by the department in carrying out its responsibilities under this code shall be assessed in accordance with SCC [15.05.060](#).

- D. Section 112 Board of Appeals, is hereby amended by deletion in its entirety and substituting the following:

Appeals of decisions made by the code official shall be to the Board of Appeals as established in the 2018 International Building Code as amended by the City of Sedona.

- E. Section 114.2 Issuance, is hereby amended by removing the first sentence in its entirety and inserting the following:

A stop work order shall be in writing and shall be given to the owner of the property, to the owner's authorized agent, or to the person performing the work, or shall be posted on the structure or on site in a conspicuous location.

- F. Section R114.3 Unlawful continuance, is hereby amended by deletion in its entirety and substituting the following:

[Type here]

Section R114.3 Unlawful continuance and/or removal of stop work notice. Any person who shall continue or allow the continuance of any work in or about the structure or property after having been served with a stop work order, except such work as that person is directed to perform to remove a violation or unsafe condition, or any person who removes, or causes the removal of, the stop work notice without the consent of the City, shall be subject to fines and penalties as set by the applicable governing authority.

[Type here]

Chapter 15.45 INTERNATIONAL ENERGY CONSERVATION CODE

Sections:

[15.45.010](#) Adoption of the International Energy Conservation Code.

[15.45.020](#) Amendments to the International Energy Conservation Code.

15.45.010 Adoption of the International Energy Conservation Code.

That certain code entitled International Energy Conservation Code, 2018 Edition, as amended and codified, published by the International Code Council, Inc., three copies of which are available for public inspection in the office of the director of community development, is hereby adopted as the energy conservation code of the city and made a part of this title the same as though set forth in full herein, including Appendix Chapters CA, Solar Ready Zone - Commercial and CB Electrical Vehicle Ready Parking Areas - Commercial, and excepting those portions hereinafter deleted or amended.

15.45.020 Amendments to the International Energy Conservation Code.

The International Energy Conservation Code, 2018 Edition, is modified as follows:

A. Section C101.1 Title, is hereby amended by replacing "Name of Jurisdiction" with "City of Sedona".

B. Section C104.2 Schedule of permit fees, is hereby amended by deleting the section in its entirety and inserting the following:

The fees for activities and services performed by the department in carrying out its responsibilities under this code shall be assessed in accordance with SCC [15.05.060](#).

C. Section C108.2 Issuance, is hereby amended by removing the first sentence in its entirety and inserting the following:

A stop work order shall be in writing and shall be given to the owner of the property, to the owner's authorized agent, or to the person performing the work, or shall be posted on the structure or on site in a conspicuous location.

D. Section C108.4 Failure to comply, is hereby deleted in its entirety and replaced by the following:

Section C108.4 Failure to comply and/or removal of stop work notice. Any person who shall continue or allow the continuance of any work in or about the structure or property after having been served with a stop work order, except such work as that person is directed to perform to remove a violation or unsafe condition, or any person who removes, or causes the removal of, the stop work notice without the consent of the City, shall be subject to fines and penalties as set by the applicable governing authority.

E. Section C109 Board of Appeals, is hereby amended by deletion in its entirety and substituting the following:

[Type here]

Appeals of decisions made by the code official shall be to the Board of Appeals as established in the 2018 International Building Code as amended by the City of Sedona.

F. Appendix CB, is hereby added as a new appendix as follows:

Appendix CB Electrical Vehicle Ready Parking Areas – Commercial

CB 101.1 General. These provisions shall be applicable for new construction where electrical vehicle ready provisions are required in Section CB 201.1.

CB 201.1 Electrical vehicle ready parking spaces. For every newly permitted structure governed by, and within the scope of, the International Building Code, with more than 9 parking spaces, 5 percent of the total number of parking spaces shall be capable of supporting future electric vehicle charging stations (EVCS) and said spaces shall be identified on the construction documents along with the location of the proposed EVCS. At least one EVCS shall be located in common use areas and available for use by all residents. (Note: When calculating the required electrical vehicle ready parking spaces, rounding shall be used to the nearest whole number. Where the calculations fall at the midpoint of a whole number, the number must be rounded up.)

CB 201.2 Design and installation requirements – Single EVCS required. When only one EVCS space is required, a 208/240-volt individual branch circuit or a listed raceway to accommodate a future individual branch circuit shall be installed. The raceway shall not be less than trade size 1 (nominal 1-inch inside diameter). The raceway shall originate at the main service or subpanel and shall terminate into a listed cabinet, box or other enclosure in close proximity to the proposed location of the electric vehicle charger. Construction documents shall identify the raceway termination point. The service panel or subpanel circuit directory shall provide capacity to install a 40-ampere minimum dedicated branch circuit and space(s) reserved to permit installation of a branch circuit overcurrent device. Electric vehicle supply equipment shall be installed in accordance with NFPA 70.

CB 201.3 Design and installation requirements – Multiple EVCS required. Construction documents shall indicate the raceway termination point and proposed location of future EVCS and electric vehicle chargers. Construction documents shall also provide information on amperage of future electric vehicle supply equipment (EVSE), raceway method(s) wiring schematics and electrical panel service capacity and electrical system, including any on-site distribution transformer(s), have sufficient capacity to simultaneously charge all electric vehicles at all required EVCS at the full rated amperage of the EVSE. Plan design shall be based upon 40-ampere minimum branch circuit. Raceways and related components that are planned to be installed underground, enclosed, inaccessible or in concealed areas and spaces shall be installed at time of the original construction. Electric vehicle supply equipment shall be installed in accordance with NFPA 70.

CB 201.4 Identification. The service panel or subpanel circuit directory shall identify the overcurrent protective device space(s) reserved for future electric vehicle charging as "EV CAPABLE". The raceway termination location shall be permanently and visibly marked as "EV CAPABLE".

G. Section R101.1 Title, is hereby amended by replacing "Name of Jurisdiction" with "City of Sedona".

[Type here]

H. Section R104.2 Schedule of permit fees, is hereby amended by deleting the section in its entirety and inserting the following:

The fees for activities and services performed by the department in carrying out its responsibilities under this code shall be assessed in accordance with SCC [15.05.060](#).

I. Section R108.2 Issuance, is hereby amended by removing the first sentence in its entirety and inserting the following:

A stop work order shall be in writing and shall be given to the owner of the property, to the owner's authorized agent, or to the person performing the work, or shall be posted on the structure or on site in a conspicuous location.

J. Section R108.4 Failure to comply, is hereby deleted in its entirety and replaced by the following:

Section R108.4 Failure to comply and/or removal of stop work notice. Any person who shall continue or allow the continuance of any work in or about the structure or property after having been served with a stop work order, except such work as that person is directed to perform to remove a violation or unsafe condition, or any person who removes, or causes the removal of, the stop work notice without the consent of the City, shall be subject to fines and penalties as set by the applicable governing authority.

K. Section R109 Board of Appeals, is hereby amended by deletion in its entirety and substituting the following:

Appeals of decisions made by the code official shall be to the Board of Appeals as established in the 2018 International Building Code as amended by the City of Sedona.

[Type here]

Chapter 15.50 INTERNATIONAL SWIMMING POOL AND SPA CODE

Sections:

[15.50.010](#) Adoption of the International Swimming Pool and Spa Code.

[15.50.020](#) Amendments to the International Swimming Pool and Spa Code.

15.50.010 Adoption of the International Swimming Pool and Spa Code.

That certain code entitled International Swimming Pool and Spa Code, 2018 Edition, as amended and codified, published by the International Code Council, Inc., three copies of which are available for public inspection in the office of the director of community development, is hereby adopted as the swimming pool and spa code of the city and made a part of this title the same as though set forth in full herein, excepting those portions hereinafter deleted or amended.

15.50.020 Amendments to the International Swimming Pool and Spa Code.

The International Swimming Pool and Spa Code, 2018 Edition, is modified as follows:

A. Section 101.1 Title, is hereby amended by replacing "Name of Jurisdiction" with "City of Sedona".

B. Section 102.9 Other laws, is hereby amended by adding the following to the end of the sentence:

...including Arizona Statute 36-1681, except that Section (D)(7) of Statute 36-1681 is hereby deleted in its entirety.

C. Section 105.5.3 Expiration, is hereby amended by adding the following to the end of the first sentence:

Lack of a scheduled and performed inspection within 180 days constitutes a suspension or abandonment of work, and therefore an expiration of the permit.

D. Section 105.5.4 Extensions, is hereby amended by deleting the last sentence in its entirety.

E. Section 105.6.2 Fee schedule, is hereby amended by deleting the section in its entirety and inserting the following:

The fees for activities and services performed by the department in carrying out its responsibilities under this code shall be assessed in accordance with SCC [15.05.060](#).

F. Section 105.6.3 Fee refunds, is hereby amended by adding the following to the end of the section:

Refunds that are within the scope of this Section shall be assessed in accordance with the provisions of this section and as set forth in SCC [15.05.060](#).

G. Section 107.4 Violation penalties, is hereby amended by deleting the section in its entirety and inserting the following:

[Type here]

Section 108.4 Violation penalties. Any person, firm or corporation who shall violate this code shall be subject to the penalties as provided in SCC [1.15.010](#) for each and every such violation and non-compliance as a separate offense. Imposition of penalty for a violation of this code shall not excuse the violation or permit it to continue. A violation shall be remedied within a reasonable time, and each day that such violation continues unabated shall constitute a separate offense.

H. Section 107.5 Stop work orders, is hereby amended by removing the second sentence in its entirety and inserting the following:

Such notice shall be in writing and shall be given to the owner of the property, or to the owner's authorized agent, or to the person performing the work, or shall be posted on the building or on site in a conspicuous location.

I. Section 107.5 Stop work orders, is hereby amended by deleting the last sentence in its entirety and inserting the following:

Any person, firm or corporation who removes a stop work order without authorization from the Building Official, or who shall continue any work in or about the structure after having been served a stop work order, or where a stop work order has been posted, except such work as that person, firm or corporation is directed to perform to remove a violation or unsafe condition, shall be subject to the penalties as provided in SCC [1.15.010](#) for each and every such violation and non-compliance as a separate offense. Imposition of penalty for a violation of this code shall not excuse the violation or permit it to continue. A violation shall be remedied within a reasonable time, and each day that such violation continues unabated shall constitute a separate offense.

J. Section 108 Means of appeal, is hereby amended by deletion in its entirety and substituting the following:

Appeals of decisions made by the code official shall be to the Board of Appeals as established in the 2018 International Building Code as amended by the City of Sedona.

K. Section 305.2.1 Barrier height and clearances, is hereby amended by deleting "48 inches (1219 mm)" from Item 1 and replacing with "60 inches".

L. Section 305.3.3 Latches, is hereby amended by deleting "3 inches (76 mm)" from the fourth line of the paragraph and replacing with "5 inches".

M. Section 305.3.3 Latches, is hereby amended by deleting "18 inches (457 mm)" from the last line of the paragraph and replacing with "24 inches".

N. Section 305.4 Structure wall as a barrier, is hereby amended by deleting Item 1 in its entirety.

[Type here]

O. Section 305.4 Structure wall as a barrier, is hereby amended by deleting Item 3 in its entirety adding in its place the following new Item 3:

3. All ground level doors or other doors with direct access to the swimming pool or other contained body of water shall be equipped with self-closing, self-latching devices which meet the requirements of Section 305.3.3. Emergency escape or rescue windows from sleeping rooms with access to the swimming pool or other contained body of water shall be equipped with a latching device not less than 54 inches above the adjacent finished floor. All other openable dwelling unit or guest room windows with similar access shall be equipped with a screwed in place wire mesh screen, or a keyed lock that prevents the window from opening more than 4 inches, or a latching device located not less than 54 inches above the adjacent finished floor.

P. Section 305.5 Onground residential pool structure as a barrier, is hereby amended by deleting "48 inches (1219 mm)" from Items 1 and 2 and replacing with "60 inches".

Final Changes to the Proposed 2019 Building Code Updates

The following identifies the final changes made to the proposed building code updates that were submitted for, and discussed at, the June 11, 2019 City Council Work Session. These changes are based on the feedback received from Council before and during the work session, as well as additional staff input after the work session.

2018 International Building Code:

- Section 105.7 Placement of permit. This section was changed to require the placement of the permit in a “conspicuous place, visible from the public way”.
- Section 113.3 Qualifications revised as follows:
 - 113.3 Board Composition and Authority. All reviews required of a Board of Appeals shall be delegated to a hearing officer to be appointed in the same manner as such other hearing officers appointed by the City Council to hear appeals to the City of Sedona’s Board of Adjustment. The hearing officer(s) appointed pursuant to this section shall have final review authority and no further appeal shall be required by the City of Sedona.

2018 International Residential Code:

- Section R105.7 Placement of permit. This section was changed to require the placement of the permit in a “conspicuous place, visible from the public way”.
- Section 113.3 Qualifications revised as follows:
 - 113.3 Board Composition and Authority. All reviews required of a Board of Appeals shall be delegated to a hearing officer to be appointed in the same manner as such other hearing officers appointed by the City Council to hear appeals to the City of Sedona’s Board of Adjustment. The hearing officer(s) appointed pursuant to this section shall have final review authority and no further appeal shall be required by the City of Sedona.

15.05.060 Building Permit Fees and Valuation:

- Subsection E. Fee Refunds. This section was changed to indicate that, “no plan review fee shall be refunded after the permit application has been approved for issuance or the initial plan review has been completed”.

2018 International Plumbing Code:

- Section 403.2, Separate facilities, Exceptions revised as follows:
 - 5. Separate facilities for each sex shall not be required in any occupancy or structure where the total number, type and design of fixtures required by Table 403.1 of this code, Section 1109.2.1 of the International Building

Code and Chapters 2 and 6 of the most current ADA Standards for Accessible Design can be met by the use of single-user toilet facilities and bathing room facilities.

2018 International Energy Conservation Code:

- Tables C301.1 and R301.1 Climate Zones, Moisture Regimes, and Warm-Humid Designations by State, County and Territory. Removed proposed amendment to require the use of Climate Zone 5B for both Yavapai and Coconino Counties to reduce confusion and overkill when using calculated software systems to verify compliance. (The Energy Code currently identifies Zones 4B and 5B respectively.)

Other:

- Addressed punctuation, spelling, format and content clarification/correction comments indicated in the review letter by Councilor Currivan dated 6/9/19.

Affected Code Sections – AB 2493

Councilors.

The following is a list of code sections that were affected by the proposed amendments. Please use this document as a means of understanding how the proposed amendments change the original requirement.

I have placed an asterisk next to the code section that coincides with the proposed amendment. It should be noted that I did not include copies of code sections for amendments that are not being altered (carry-overs from our current amendments), that changed only in format, or that changed due to typos, punctuation or section number changes.

Please let me know if there are any additional code sections that you would like to see.

Respectfully,

Steve Mertes
Chief Building Official

2 0 1 8

INTERNATIONAL CODES®

IBC®

A Member of the International Code Family®

INTERNATIONAL
BUILDING CODE®



SCOPE AND ADMINISTRATION

official finds that the proposed design is satisfactory and complies with the intent of the provisions of this code, and that the material, method or work offered is, for the purpose intended, not less than the equivalent of that prescribed in this code in quality, strength, effectiveness, *fire resistance*, durability and safety. Where the alternative material, design or method of construction is not *approved*, the *building official* shall respond in writing, stating the reasons why the alternative was not *approved*.

[A] **104.11.1 Research reports.** Supporting data, where necessary to assist in the approval of materials or assemblies not specifically provided for in this code, shall consist of valid research reports from *approved* sources.

[A] **104.11.2 Tests.** Whenever there is insufficient evidence of compliance with the provisions of this code, or evidence that a material or method does not conform to the requirements of this code, or in order to substantiate claims for alternative materials or methods, the *building official* shall have the authority to require tests as evidence of compliance to be made without expense to the jurisdiction. Test methods shall be as specified in this code or by other recognized test standards. In the absence of recognized and accepted test methods, the *building official* shall approve the testing procedures. Tests shall be performed by an *approved agency*. Reports of such tests shall be retained by the *building official* for the period required for retention of public records.

SECTION 105 PERMITS

[A] **105.1 Required.** Any *owner* or owner's authorized agent who intends to construct, enlarge, alter, *repair*, move, demolish or change the occupancy of a building or structure, or to erect, install, enlarge, alter, *repair*, remove, convert or replace any electrical, gas, mechanical or plumbing system, the installation of which is regulated by this code, or to cause any such work to be performed, shall first make application to the *building official* and obtain the required *permit*.

[A] **105.1.1 Annual permit.** Instead of an individual *permit* for each *alteration* to an already *approved* electrical, gas, mechanical or plumbing installation, the *building official* is authorized to issue an annual *permit* upon application therefor to any person, firm or corporation regularly employing one or more qualified tradespersons in the building, structure or on the premises owned or operated by the applicant for the *permit*.

[A] **105.1.2 Annual permit records.** The person to whom an annual *permit* is issued shall keep a detailed record of *alterations* made under such annual *permit*. The *building official* shall have access to such records at all times or such records shall be filed with the *building official* as designated.

* [A] **105.2 Work exempt from permit.** Exemptions from *permit* requirements of this code shall not be deemed to grant authorization for any work to be done in any manner in violation of the provisions of this code or any other laws or ordi-

nances of this jurisdiction. *Permits* shall not be required for the following:

Building:

1. One-story detached accessory structures used as tool and storage sheds, playhouses and similar uses, provided that the floor area is not greater than 120 square feet (11 m²).
2. Fences not over 7 feet (2134 mm) high.
3. Oil derricks.
4. Retaining walls that are not over 4 feet (1219 mm) in height measured from the bottom of the footing to the top of the wall, unless supporting a surcharge or impounding Class I, II or IIIA liquids.
5. Water tanks supported directly on grade if the capacity is not greater than 5,000 gallons (18 925 L) and the ratio of height to diameter or width is not greater than 2:1.
6. Sidewalks and driveways not more than 30 inches (762 mm) above adjacent grade, and not over any basement or *story* below and are not part of an *accessible route*.
7. Painting, papering, tiling, carpeting, cabinets, counter tops and similar finish work.
8. Temporary motion picture, television and theater stage sets and scenery.
9. Prefabricated *swimming pools* accessory to a Group R-3 occupancy that are less than 24 inches (610 mm) deep, are not greater than 5,000 gallons (18 925 L) and are installed entirely above ground.
10. Shade cloth structures constructed for nursery or agricultural purposes, not including service systems.
11. Swings and other playground equipment accessory to detached one- and two-family *dwellings*.
12. Window awnings in Group R-3 and U occupancies, supported by an exterior wall that do not project more than 54 inches (1372 mm) from the *exterior wall* and do not require additional support.
13. Nonfixed and movable fixtures, cases, racks, counters and partitions not over 5 feet 9 inches (1753 mm) in height.

Electrical:

1. **Repairs and maintenance:** Minor repair work, including the replacement of lamps or the connection of *approved* portable electrical equipment to *approved* permanently installed receptacles.
2. **Radio and television transmitting stations:** The provisions of this code shall not apply to electrical equipment used for radio and television transmissions, but do apply to equipment and wiring for a power supply and the installations of towers and antennas.
3. **Temporary testing systems:** A *permit* shall not be required for the installation of any temporary system

* [A] 105.7 **Placement of permit.** The building *permit* or copy shall be kept on the site of the work until the completion of the project.

SECTION 106 FLOOR AND ROOF DESIGN LOADS

[A] 106.1 **Live loads posted.** In commercial or industrial buildings, for each floor or portion thereof designed for *live loads* exceeding 50 psf (2.40 kN/m²), such design *live loads* shall be conspicuously posted by the owner or the owner's authorized agent in that part of each *story* in which they apply, using durable signs. It shall be unlawful to remove or deface such notices.

[A] 106.2 **Issuance of certificate of occupancy.** A certificate of occupancy required by Section 111 shall not be issued until the floor load signs, required by Section 106.1, have been installed.

[A] 106.3 **Restrictions on loading.** It shall be unlawful to place, or cause or permit to be placed, on any floor or roof of a building, structure or portion thereof, a load greater than is permitted by this code.

SECTION 107 SUBMITTAL DOCUMENTS

[A] 107.1 **General.** Submittal documents consisting of *construction documents*, statement of *special inspections*, geotechnical report and other data shall be submitted in two or more sets with each *permit* application. The *construction documents* shall be prepared by a *registered design professional* where required by the statutes of the jurisdiction in which the project is to be constructed. Where special conditions exist, the *building official* is authorized to require additional *construction documents* to be prepared by a *registered design professional*.

Exception: The *building official* is authorized to waive the submission of *construction documents* and other data not required to be prepared by a *registered design professional* if it is found that the nature of the work applied for is such that review of *construction documents* is not necessary to obtain compliance with this code.

[A] 107.2 **Construction documents.** *Construction documents* shall be in accordance with Sections 107.2.1 through 107.2.8.

[A] 107.2.1 **Information on construction documents.** *Construction documents* shall be dimensioned and drawn on suitable material. Electronic media documents are permitted to be submitted where *approved* by the *building official*. *Construction documents* shall be of sufficient clarity to indicate the location, nature and extent of the work proposed and show in detail that it will conform to the provisions of this code and relevant laws, ordinances, rules and regulations, as determined by the *building official*.

[A] 107.2.2 **Fire protection system shop drawings.** Shop drawings for the *fire protection system(s)* shall be submitted to indicate conformance to this code and the *construc-*

tion documents and shall be *approved* prior to the start of system installation. Shop drawings shall contain all information as required by the referenced installation standards in Chapter 9.

[A] 107.2.3 **Means of egress.** The *construction documents* shall show in sufficient detail the location, construction, size and character of all portions of the *means of egress* including the path of the *exit discharge* to the *public way* in compliance with the provisions of this code. In other than occupancies in Groups R-2, R-3, and I-1, the *construction documents* shall designate the number of occupants to be accommodated on every floor, and in all rooms and spaces.

[A] 107.2.4 **Exterior wall envelope.** *Construction documents* for all buildings shall describe the *exterior wall envelope* in sufficient detail to determine compliance with this code. The *construction documents* shall provide details of the *exterior wall envelope* as required, including flashing, intersections with dissimilar materials, corners, end details, control joints, intersections at roof, eaves or parapets, means of drainage, water-resistive membrane and details around openings.

The *construction documents* shall include manufacturer's installation instructions that provide supporting documentation that the proposed penetration and opening details described in the *construction documents* maintain the weather resistance of the *exterior wall envelope*. The supporting documentation shall fully describe the *exterior wall* system that was tested, where applicable, as well as the test procedure used.

[A] 107.2.5 **Exterior balconies and elevated walking surfaces.** Where balconies or other elevated walking surfaces are exposed to water from direct or blowing rain, snow, or irrigation, and the structural framing is protected by an impervious moisture barrier, the *construction documents* shall include details for all elements of the impervious moisture barrier system. The *construction documents* shall include manufacturer's installation instructions.

[A] 107.2.6 **Site plan.** The *construction documents* submitted with the application for *permit* shall be accompanied by a site plan showing to scale the size and location of new construction and existing structures on the site, distances from *lot lines*, the established street grades and the proposed finished grades and, as applicable, *flood hazard areas*, *floodways*, and *design flood elevations*; and it shall be drawn in accordance with an accurate boundary line survey. In the case of demolition, the site plan shall show construction to be demolished and the location and size of existing structures and construction that are to remain on the site or plot. The *building official* is authorized to waive or modify the requirement for a site plan where the application for *permit* is for *alteration* or *repair* or where otherwise warranted.

[A] 107.2.6.1 **Design flood elevations.** Where *design flood elevations* are not specified, they shall be established in accordance with Section 1612.3.1.

building official is authorized to make or require other inspections of any construction work to ascertain compliance with the provisions of this code and other laws that are enforced by the department of building safety.

[A] 110.3.10 **Special inspections.** For *special inspections*, see Chapter 17.

[A] 110.3.11 **Final inspection.** The final inspection shall be made after all work required by the *building permit* is completed.

[A] 110.3.11.1 **Flood hazard documentation.** If located in a *flood hazard area*, documentation of the elevation of the lowest floor as required in Section 1612.4 shall be submitted to the *building official* prior to the final inspection.

[A] 110.4 **Inspection agencies.** The *building official* is authorized to accept reports of *approved* inspection agencies, provided that such agencies satisfy the requirements as to qualifications and reliability.

[A] 110.5 **Inspection requests.** It shall be the duty of the holder of the *building permit* or their duly authorized agent to notify the *building official* when work is ready for inspection. It shall be the duty of the *permit* holder to provide access to and means for inspections of such work that are required by this code.

[A] 110.6 **Approval required.** Work shall not be done beyond the point indicated in each successive inspection without first obtaining the approval of the *building official*. The *building official*, upon notification, shall make the requested inspections and shall either indicate the portion of the construction that is satisfactory as completed, or notify the *permit* holder or his or her agent wherein the same fails to comply with this code. Any portions that do not comply shall be corrected and such portion shall not be covered or concealed until authorized by the *building official*.

SECTION 111 CERTIFICATE OF OCCUPANCY

[A] 111.1 **Change of occupancy.** A building or structure shall not be used or occupied, and a change of occupancy of a building or structure or portion thereof shall not be made, until the *building official* has issued a certificate of occupancy therefor as provided herein. Issuance of a certificate of occupancy shall not be construed as an approval of a violation of the provisions of this code or of other ordinances of the jurisdiction.

Exception: Certificates of occupancy are not required for work exempt from *permits* in accordance with Section 105.2.

[A] 111.2 **Certificate issued.** After the *building official* inspects the building or structure and does not find violations of the provisions of this code or other laws that are enforced by the department of building safety, the *building official* shall issue a certificate of occupancy that contains the following:

1. The *building permit* number.
2. The address of the structure.

3. The name and address of the *owner* or the *owner's* authorized agent.
4. A description of that portion of the structure for which the certificate is issued.
5. A statement that the described portion of the structure has been inspected for compliance with the requirements of this code for the occupancy and division of occupancy and the use for which the proposed occupancy is classified.
6. The name of the *building official*.
7. The edition of the code under which the *permit* was issued.
8. The use and occupancy, in accordance with the provisions of Chapter 3.
9. The type of construction as defined in Chapter 6.
10. The design *occupant load*.
11. If an *automatic sprinkler system* is provided, whether the sprinkler system is required.
12. Any special stipulations and conditions of the *building permit*.

*[A] 111.3 **Temporary occupancy.** The *building official* is authorized to issue a temporary certificate of occupancy before the completion of the entire work covered by the *permit*, provided that such portion or portions shall be occupied safely. The *building official* shall set a time period during which the temporary certificate of occupancy is valid.

[A] 111.4 **Revocation.** The *building official* is authorized to, in writing, suspend or revoke a certificate of occupancy or completion issued under the provisions of this code wherever the certificate is issued in error, or on the basis of incorrect information supplied, or where it is determined that the building or structure or portion thereof is in violation of any ordinance or regulation or any of the provisions of this code.

SECTION 112 SERVICE UTILITIES

[A] 112.1 **Connection of service utilities.** A person shall not make connections from a utility, source of energy, fuel or power to any building or system that is regulated by this code for which a *permit* is required, until released by the *building official*.

[A] 112.2 **Temporary connection.** The *building official* shall have the authority to authorize the temporary connection of the building or system to the utility, source of energy, fuel or power.

[A] 112.3 **Authority to disconnect service utilities.** The *building official* shall have the authority to authorize disconnection of utility service to the building, structure or system regulated by this code and the referenced codes and standards set forth in Section 101.4 in case of emergency where necessary to eliminate an immediate hazard to life or property or where such utility connection has been made without the approval required by Section 112.1 or 112.2. The *building official* shall notify the serving utility, and wherever possible

SCOPE AND ADMINISTRATION

the *owner* and occupant of the building, structure or service system of the decision to disconnect prior to taking such action. If not notified prior to disconnecting, the *owner* or occupant of the building, structure or service system shall be notified in writing, as soon as practical thereafter.

SECTION 113 BOARD OF APPEALS

[A] 113.1 **General.** In order to hear and decide appeals of orders, decisions or determinations made by the *building official* relative to the application and interpretation of this code, there shall be and is hereby created a board of appeals. The board of appeals shall be appointed by the applicable governing authority and shall hold office at its pleasure. The board shall adopt rules of procedure for conducting its business.

[A] 113.2 **Limitations on authority.** An application for appeal shall be based on a claim that the true intent of this code or the rules legally adopted thereunder have been incorrectly interpreted, the provisions of this code do not fully apply or an equally good or better form of construction is proposed. The board shall not have authority to waive requirements of this code.

* [A] 113.3 **Qualifications.** The board of appeals shall consist of members who are qualified by experience and training to pass on matters pertaining to building construction and are not employees of the jurisdiction.

SECTION 114 VIOLATIONS

[A] 114.1 **Unlawful acts.** It shall be unlawful for any person, firm or corporation to erect, construct, alter, extend, *repair*, move, remove, demolish or occupy any building, structure or equipment regulated by this code, or cause same to be done, in conflict with or in violation of any of the provisions of this code.

[A] 114.2 **Notice of violation.** The *building official* is authorized to serve a notice of violation or order on the person responsible for the erection, construction, *alteration*, extension, *repair*, moving, removal, demolition or occupancy of a building or structure in violation of the provisions of this code, or in violation of a *permit* or certificate issued under the provisions of this code. Such order shall direct the discontinuance of the illegal action or condition and the abatement of the violation.

[A] 114.3 **Prosecution of violation.** If the notice of violation is not complied with promptly, the *building official* is authorized to request the legal counsel of the jurisdiction to institute the appropriate proceeding at law or in equity to restrain, correct or abate such violation, or to require the removal or termination of the unlawful occupancy of the building or structure in violation of the provisions of this code or of the order or direction made pursuant thereto.

[A] 114.4 **Violation penalties.** Any person who violates a provision of this code or fails to comply with any of the requirements thereof or who erects, constructs, alters or repairs a building or structure in violation of the *approved*

construction documents or directive of the *building official*, or of a *permit* or certificate issued under the provisions of this code, shall be subject to penalties as prescribed by law.

SECTION 115 STOP WORK ORDER

[A] 115.1 **Authority.** Where the *building official* finds any work regulated by this code being performed in a manner either contrary to the provisions of this code or dangerous or unsafe, the *building official* is authorized to issue a stop work order.

* [A] 115.2 **Issuance.** The stop work order shall be in writing and shall be given to the *owner* of the property involved, the *owner's* authorized agent or the person performing the work. Upon issuance of a stop work order, the cited work shall immediately cease. The stop work order shall state the reason for the order and the conditions under which the cited work will be permitted to resume.

* [A] 115.3 **Unlawful continuance.** Any person who shall continue any work after having been served with a stop work order, except such work as that person is directed to perform to remove a violation or unsafe condition, shall be subject to penalties as prescribed by law.

SECTION 116 UNSAFE STRUCTURES AND EQUIPMENT

[A] 116.1 **Conditions.** Structures or existing equipment that are or hereafter become unsafe, insanitary or deficient because of inadequate *means of egress* facilities, inadequate light and ventilation, or that constitute a fire hazard, or are otherwise dangerous to human life or the public welfare, or that involve illegal or improper occupancy or inadequate maintenance, shall be deemed an unsafe condition. Unsafe structures shall be taken down and removed or made safe, as the *building official* deems necessary and as provided for in this section. A vacant structure that is not secured against entry shall be deemed unsafe.

[A] 116.2 **Record.** The *building official* shall cause a report to be filed on an unsafe condition. The report shall state the occupancy of the structure and the nature of the unsafe condition.

[A] 116.3 **Notice.** If an unsafe condition is found, the *building official* shall serve on the *owner*, agent or person in control of the structure, a written notice that describes the condition deemed unsafe and specifies the required repairs or improvements to be made to abate the unsafe condition, or that requires the unsafe structure to be demolished within a stipulated time. Such notice shall require the person thus notified to declare immediately to the *building official* acceptance or rejection of the terms of the order.

[A] 116.4 **Method of service.** Such notice shall be deemed properly served if a copy thereof is: delivered to the *owner* personally; sent by certified or registered mail addressed to the *owner* at the last known address with the return receipt requested; or delivered in any other manner as prescribed by local law. If the certified or registered letter is returned show-

CHAPTER 5

GENERAL BUILDING HEIGHTS AND AREAS

User note:

About this chapter: Chapter 5 establishes the limits to which a building can be built. Building height, number of stories and building area are specified in this chapter. Chapter 5 must be used in conjunction with the occupancies established in Chapter 3 and the types of construction established in Chapter 6. This chapter also specifies the impact that mezzanines, accessory occupancies and mixed occupancies have on the overall size of a building.

SECTION 501 GENERAL

501.1 Scope. The provisions of this chapter control the height and area of structures hereafter erected and *additions* to existing structures.

SECTION 502 BUILDING ADDRESS

* [F] **502.1 Address identification.** New and existing buildings shall be provided with *approved* address identification. The address identification shall be legible and placed in a position that is visible from the street or road fronting the property. Address identification characters shall contrast with their background. Address numbers shall be Arabic numbers or alphabetical letters. Numbers shall not be spelled out. Each character shall be a minimum of 4 inches (102 mm) high with a minimum stroke width of 1/2 inch (12.7 mm). Where required by the fire code official, address identification shall be provided in additional approved locations to facilitate emergency response. Where access is by means of a private road and the building address cannot be viewed from the public way, a monument, pole or other approved sign or means shall be used to identify the structure. Address identification shall be maintained.

SECTION 503 GENERAL BUILDING HEIGHT AND AREA LIMITATIONS

503.1 General. Unless otherwise specifically modified in Chapter 4 and this chapter, *building height*, number of *stories* and *building area* shall not exceed the limits specified in Sections 504 and 506 based on the type of construction as determined by Section 602 and the occupancies as determined by Section 302 except as modified hereafter. *Building height*, number of *stories* and *building area* provisions shall be applied independently. For the purposes of determining area limitations, height limitations and type of construction, each portion of a building separated by one or more *fire walls* complying with Section 706 shall be considered to be a separate building.

503.1.1 Special industrial occupancies. Buildings and structures designed to house special industrial processes that require large areas and unusual *building heights* to accommodate craneways or special machinery and equipment, including, among others, rolling mills; structural

metal fabrication shops and foundries; or the production and distribution of electric, gas or steam power, shall be exempt from the *building height*, number of *stories* and *building area* limitations specified in Sections 504 and 506.

503.1.2 Buildings on same lot. Two or more buildings on the same lot shall be regulated as separate buildings or shall be considered as portions of one building where the *building height*, number of *stories* of each building and the aggregate *building area* of the buildings are within the limitations specified in Sections 504 and 506. The provisions of this code applicable to the aggregate building shall be applicable to each *building*.

503.1.3 Type I construction. Buildings of Type I construction permitted to be of unlimited tabular *building heights and areas* are not subject to the special requirements that allow unlimited area buildings in Section 507 or unlimited *building height* in Sections 503.1.1 and 504.3 or increased *building heights and areas* for other types of construction.

503.1.4 Occupied roofs. A roof level or portion thereof shall be permitted to be used as an occupied roof provided the occupancy of the roof is an occupancy that is permitted by Table 504.4 for the story immediately below the roof. The area of the occupied roofs shall not be included in the building area as regulated by Section 506.

Exceptions:

1. The occupancy located on an occupied roof shall not be limited to the occupancies allowed on the *story* immediately below the roof where the building is equipped throughout with an *automatic sprinkler system* in accordance with Section 903.3.1.1 or 903.3.1.2 and occupant notification in accordance with Section 907.5 is provided in the area of the occupied roof.
2. Assembly occupancies shall be permitted on roofs of open parking spaces of Type I or Type II construction, in accordance with the exception to Section 903.2.1.6.

503.1.4.1 Enclosures over occupied roof areas. Elements or structures enclosing the occupied roof areas shall not extend more than 48 inches (1220 mm) above the surface of the occupied roof.

Exception: Penthouses constructed in accordance with Section 1510.2 and towers, domes, spires and cupolas constructed in accordance with Section 1510.5.

be increased by one-third where used with the alternative basic load combinations of Section 1605.3.2 that include wind or earthquake loads.

1806.2 Presumptive load-bearing values. The load-bearing values used in design for supporting soils near the surface shall not exceed the values specified in Table 1806.2 unless data to substantiate the use of higher values are submitted and approved. Where the *building official* has reason to doubt the classification, strength or compressibility of the soil, the requirements of Section 1803.5.2 shall be satisfied.

Presumptive load-bearing values shall apply to materials with similar physical characteristics and dispositions. Mud, organic silt, organic clays, peat or unprepared fill shall not be assumed to have a presumptive load-bearing capacity unless data to substantiate the use of such a value are submitted.

Exception: A presumptive load-bearing capacity shall be permitted to be used where the *building official* deems the load-bearing capacity of mud, organic silt or unprepared fill is adequate for the support of lightweight or temporary structures.

1806.3 Lateral load resistance. Where the presumptive values of Table 1806.2 are used to determine resistance to lateral loads, the calculations shall be in accordance with Sections 1806.3.1 through 1806.3.4.

1806.3.1 Combined resistance. The total resistance to lateral loads shall be permitted to be determined by combining the values derived from the lateral bearing pressure and the lateral sliding resistance specified in Table 1806.2.

1806.3.2 Lateral sliding resistance limit. For clay, sandy clay, silty clay, clayey silt, silt and sandy silt, the lateral sliding resistance shall not exceed one-half the dead load.

1806.3.3 Increase for depth. The lateral bearing pressures specified in Table 1806.2 shall be permitted to be increased by the tabular value for each additional foot (305 mm) of depth to a value that is not greater than 15 times the tabular value.

1806.3.4 Increase for poles. Isolated poles for uses such as flagpoles or signs and poles used to support buildings that are not adversely affected by a 1/2-inch (12.7 mm) motion at the ground surface due to short-term lateral loads shall be permitted to be designed using lateral bearing pressures equal to two times the tabular values.

**SECTION 1807
FOUNDATION WALLS, RETAINING
WALLS AND EMBEDDED POSTS AND POLES**

1807.1 Foundation walls. Foundation walls shall be designed and constructed in accordance with Sections 1807.1.1 through 1807.1.6. Foundation walls shall be supported by foundations designed in accordance with Section 1808.

1807.1.1 Design lateral soil loads. Foundation walls shall be designed for the lateral soil loads set forth in Section 1610.

1807.1.2 Unbalanced backfill height. Unbalanced backfill height is the difference in height between the exterior finish ground level and the lower of the top of the concrete footing that supports the foundation wall or the interior finish ground level. Where an interior concrete slab on grade is provided and is in contact with the interior surface of the foundation wall, the unbalanced backfill height shall be permitted to be measured from the exterior finish ground level to the top of the interior concrete slab.

1807.1.3 Rubble stone foundation walls. Foundation walls of rough or random rubble stone shall be not less than 16 inches (406 mm) thick. Rubble stone shall not be used for foundation walls of structures assigned to *Seismic Design Category C, D, E or F*.

1807.1.4 Permanent wood foundation systems. Permanent wood foundation systems shall be designed and installed in accordance with AWC PWF. Lumber and plywood shall be preservative treated in accordance with AWPA U1 (Commodity Specification A, Special Requirement 4.2) and shall be identified in accordance with Section 2303.1.9.1.

1807.1.5 Concrete and masonry foundation walls. Concrete and masonry foundation walls shall be designed in accordance with Chapter 19 or 21, as applicable.

Exception: Concrete and masonry foundation walls shall be permitted to be designed and constructed in accordance with Section 1807.1.6.

* **1807.1.6 Prescriptive design of concrete and masonry foundation walls.** Concrete and masonry foundation walls that are laterally supported at the top and bottom shall be permitted to be designed and constructed in accordance with this section.

**TABLE 1806.2
PRESUMPTIVE LOAD-BEARING VALUES**

| CLASS OF MATERIALS | VERTICAL FOUNDATION PRESSURE (psf) | LATERAL BEARING PRESSURE (psf/ft below natural grade) | LATERAL SLIDING RESISTANCE | |
|--|------------------------------------|---|--------------------------------------|-----------------------------|
| | | | Coefficient of friction ^a | Cohesion (psf) ^b |
| 1. Crystalline bedrock | 12,000 | 1,200 | 0.70 | — |
| 2. Sedimentary and foliated rock | 4,000 | 400 | 0.35 | — |
| 3. Sandy gravel and gravel (GW and GP) | 3,000 | 200 | 0.35 | — |
| 4. Sand, silty sand, clayey sand, silty gravel and clayey gravel (SW, SP, SM, SC, GM and GC) | 2,000 | 150 | 0.25 | — |
| 5. Clay, sandy clay, silty clay, clayey silt, silt and sandy silt (CL, ML, MH and CH) | 1,500 | 100 | — | 130 |

For SI: 1 pound per square foot = 0.0479kPa, 1 pound per square foot per foot = 0.157 kPa/m.

a. Coefficient to be multiplied by the dead load.

b. Cohesion value to be multiplied by the contact area, as limited by Section 1806.3.2.

2 0 1 8

INTERNATIONAL CODES

IRC[®]

A Member of the International Code Family[®]

INCLUDES

Residential requirements from
NFPA 70: National Electrical Code[®] 2017
*The electrical code designated for
use with the I-Codes[®]*

INTERNATIONAL
RESIDENTIAL CODE[®] for One- and Two-Family Dwellings



until the final termination of the proceedings. The *building official* or any subordinate shall not be liable for cost in any action, suit or proceeding that is instituted in pursuance of the provisions of this code.

R104.9 Approved materials and equipment. Materials, equipment and devices approved by the *building official* shall be constructed and installed in accordance with such approval.

R104.9.1 Used materials and equipment. Used materials, equipment and devices shall not be reused unless approved by the *building official*.

R104.10 Modifications. Where there are practical difficulties involved in carrying out the provisions of this code, the *building official* shall have the authority to grant modifications for individual cases, provided the *building official* shall first find that special individual reason makes the strict letter of this code impractical and the modification is in compliance with the intent and purpose of this code and that such modification does not lessen health, life and fire safety or structural requirements. The details of action granting modifications shall be recorded and entered in the files of the department of building safety.

R104.10.1 Flood hazard areas. The *building official* shall not grant modifications to any provisions required in flood hazard areas as established by Table R301.2(1) unless a determination has been made that:

1. There is good and sufficient cause showing that the unique characteristics of the size, configuration or topography of the site render the elevation standards of Section R322 inappropriate.
2. Failure to grant the modification would result in exceptional hardship by rendering the lot undevelopable.
3. The granting of modification will not result in increased flood heights, additional threats to public safety, extraordinary public expense, cause fraud on or victimization of the public, or conflict with existing laws or ordinances.
4. The modification is the minimum necessary to afford relief, considering the flood hazard.
5. Written notice specifying the difference between the design flood elevation and the elevation to which the building is to be built, stating that the cost of flood insurance will be commensurate with the increased risk resulting from the reduced floor elevation and stating that construction below the design flood elevation increases risks to life and property, has been submitted to the applicant.

R104.11 Alternative materials, design and methods of construction and equipment. The provisions of this code are not intended to prevent the installation of any material or to prohibit any design or method of construction not specifically prescribed by this code. The *building official* shall have the authority to approve an alternative material, design or method of construction upon application of the owner or the owner's authorized agent. The *building official* shall first find that the proposed design is satisfactory and complies with the

intent of the provisions of this code, and that the material, method or work offered is, for the purpose intended, not less than the equivalent of that prescribed in this code in quality, strength, effectiveness, fire resistance, durability and safety. Compliance with the specific performance-based provisions of the International Codes shall be an alternative to the specific requirements of this code. Where the alternative material, design or method of construction is not approved, the *building official* shall respond in writing, stating the reasons why the alternative was not approved.

R104.11.1 Tests. Where there is insufficient evidence of compliance with the provisions of this code, or evidence that a material or method does not conform to the requirements of this code, or in order to substantiate claims for alternative materials or methods, the *building official* shall have the authority to require tests as evidence of compliance to be made at no expense to the *jurisdiction*. Test methods shall be as specified in this code or by other recognized test standards. In the absence of recognized and accepted test methods, the *building official* shall approve the testing procedures. Tests shall be performed by an approved agency. Reports of such tests shall be retained by the *building official* for the period required for retention of public records.

SECTION R105 PERMITS

R105.1 Required. Any owner or owner's authorized agent who intends to construct, enlarge, alter, repair, move, demolish or change the occupancy of a building or structure, or to erect, install, enlarge, alter, repair, remove, convert or replace any electrical, gas, mechanical or plumbing system, the installation of which is regulated by this code, or to cause any such work to be performed, shall first make application to the *building official* and obtain the required permit.

***R105.2 Work exempt from permit.** Exemption from permit requirements of this code shall not be deemed to grant authorization for any work to be done in any manner in violation of the provisions of this code or any other laws or ordinances of this *jurisdiction*. Permits shall not be required for the following:

Building:

1. One-story detached accessory structures, provided that the floor area does not exceed 200 square feet (18.58 m²).
2. Fences not over 7 feet (2134 mm) high.
3. Retaining walls that are not over 4 feet (1219 mm) in height measured from the bottom of the footing to the top of the wall, unless supporting a surcharge.
4. Water tanks supported directly upon grade if the capacity does not exceed 5,000 gallons (18 927 L) and the ratio of height to diameter or width does not exceed 2 to 1.
5. Sidewalks and driveways.

SCOPE AND ADMINISTRATION

6. Painting, papering, tiling, carpeting, cabinets, counter tops and similar finish work.
7. Prefabricated swimming pools that are less than 24 inches (610 mm) deep.
8. Swings and other playground equipment.
9. Window awnings supported by an exterior wall that do not project more than 54 inches (1372 mm) from the exterior wall and do not require additional support.
10. Decks not exceeding 200 square feet (18.58 m²) in area, that are not more than 30 inches (762 mm) above *grade* at any point, are not attached to a dwelling and do not serve the exit door required by Section R311.4.

Electrical:

1. *Listed* cord-and-plug connected temporary decorative lighting.
2. Reinstallation of attachment plug receptacles but not the outlets therefor.
3. Replacement of branch circuit overcurrent devices of the required capacity in the same location.
4. Electrical wiring, devices, *appliances*, apparatus or *equipment* operating at less than 25 volts and not capable of supplying more than 50 watts of energy.
5. Minor repair work, including the replacement of lamps or the connection of *approved* portable electrical *equipment* to *approved* permanently installed receptacles.

Gas:

1. Portable heating, cooking or clothes drying *appliances*.
2. Replacement of any minor part that does not alter approval of *equipment* or make such *equipment* unsafe.
3. Portable-fuel-cell *appliances* that are not connected to a fixed piping system and are not interconnected to a power grid.

Mechanical:

1. Portable heating *appliances*.
2. Portable ventilation *appliances*.
3. Portable cooling units.
4. Steam, hot- or chilled-water piping within any heating or cooling *equipment* regulated by this code.
5. Replacement of any minor part that does not alter approval of *equipment* or make such *equipment* unsafe.
6. Portable evaporative coolers.
7. Self-contained refrigeration systems containing 10 pounds (4.54 kg) or less of refrigerant or that are actuated by motors of 1 horsepower (746 W) or less.

8. Portable-fuel-cell *appliances* that are not connected to a fixed piping system and are not interconnected to a power grid.

Plumbing:

1. The stopping of leaks in drains, water, soil, waste or vent pipe; provided, however, that if any concealed trap, drainpipe, water, soil, waste or vent pipe becomes defective and it becomes necessary to remove and replace the same with new material, such work shall be considered as new work and a *permit* shall be obtained and inspection made as provided in this code.
2. The clearing of stoppages or the repairing of leaks in pipes, valves or fixtures, and the removal and reinstallation of water closets, provided such repairs do not involve or require the replacement or rearrangement of valves, pipes or fixtures.

R105.2.1 Emergency repairs. Where *equipment* replacements and repairs must be performed in an emergency situation, the *permit* application shall be submitted within the next working business day to the *building official*.

R105.2.2 Repairs. Application or notice to the *building official* is not required for ordinary repairs to structures, replacement of lamps or the connection of *approved* portable electrical *equipment* to *approved* permanently installed receptacles. Such repairs shall not include the cutting away of any wall, partition or portion thereof, the removal or cutting of any structural beam or load-bearing support, or the removal or change of any required means of egress, or rearrangement of parts of a structure affecting the egress requirements; nor shall ordinary repairs include *addition* to, *alteration* of, replacement or relocation of any water supply, sewer, drainage, drain leader, gas, soil, waste, vent or similar piping, electric wiring or mechanical or other work affecting public health or general safety.

R105.2.3 Public service agencies. A *permit* shall not be required for the installation, *alteration* or repair of generation, transmission, distribution, metering or other related *equipment* that is under the ownership and control of public service agencies by established right.

R105.3 Application for permit. To obtain a *permit*, the applicant shall first file an application therefor in writing on a form furnished by the department of building safety for that purpose. Such application shall:

1. Identify and describe the work to be covered by the *permit* for which application is made.
2. Describe the land on which the proposed work is to be done by legal description, street address or similar description that will readily identify and definitely locate the proposed building or work.
3. Indicate the use and occupancy for which the proposed work is intended.
4. Be accompanied by *construction documents* and other information as required in Section R106.1.
5. State the valuation of the proposed work.

6. Be signed by the applicant or the applicant's authorized agent.
7. Give such other data and information as required by the *building official*.

R105.3.1 Action on application. The *building official* shall examine or cause to be examined applications for *permits* and amendments thereto within a reasonable time after filing. If the application or the *construction documents* do not conform to the requirements of pertinent laws, the *building official* shall reject such application in writing stating the reasons therefor. If the *building official* is satisfied that the proposed work conforms to the requirements of this code and laws and ordinances applicable thereto, the *building official* shall issue a *permit* therefor as soon as practicable.

R105.3.1.1 Determination of substantially improved or substantially damaged existing buildings in flood hazard areas. For applications for reconstruction, rehabilitation, *addition*, alteration, repair or other improvement of existing buildings or structures located in a flood hazard area as established by Table R301.2(1), the *building official* shall examine or cause to be examined the *construction documents* and shall make a determination with regard to the value of the proposed work. For buildings that have sustained damage of any origin, the value of the proposed work shall include the cost to repair the building or structure to its predamaged condition. If the *building official* finds that the value of proposed work equals or exceeds 50 percent of the market value of the building or structure before the damage has occurred or the improvement is started, the proposed work is a substantial improvement or repair of substantial damage and the building official shall require existing portions of the entire building or structure to meet the requirements of Section R322.

For the purpose of this determination, a substantial improvement shall mean any repair, reconstruction, rehabilitation, addition or improvement of a building or structure, the cost of which equals or exceeds 50 percent of the market value of the building or structure before the improvement or repair is started. Where the building or structure has sustained substantial damage, repairs necessary to restore the building or structure to its predamaged condition shall be considered substantial improvements regardless of the actual repair work performed. The term shall not include either of the following:

1. Improvements to a building or structure that are required to correct existing health, sanitary or safety code violations identified by the building official and that are the minimum necessary to ensure safe living conditions.
2. Any alteration of a historic building or structure, provided that the alteration will not preclude the continued designation as a historic building or structure. For the purposes of this exclusion, a historic building shall be any of the following:

- 2.1. Listed or preliminarily determined to be eligible for listing in the National Register of Historic Places.
- 2.2. Determined by the Secretary of the U.S. Department of Interior as contributing to the historical significance of a registered historic district or a district preliminarily determined to qualify as an historic district.
- 2.3. Designated as historic under a state or local historic preservation program that is approved by the Department of Interior.

R105.3.2 Time limitation of application. An application for a *permit* for any proposed work shall be deemed to have been abandoned 180 days after the date of filing unless such application has been pursued in good faith or a *permit* has been issued; except that the *building official* is authorized to grant one or more extensions of time for additional periods not exceeding 180 days each. The extension shall be requested in writing and justifiable cause demonstrated.

R105.4 Validity of permit. The issuance or granting of a *permit* shall not be construed to be a *permit* for, or an *approval* of, any violation of any of the provisions of this code or of any other ordinance of the *jurisdiction*. *Permits* presuming to give authority to violate or cancel the provisions of this code or other ordinances of the *jurisdiction* shall not be valid. The issuance of a *permit* based on *construction documents* and other data shall not prevent the *building official* from requiring the correction of errors in the *construction documents* and other data. The *building official* is authorized to prevent occupancy or use of a structure where in violation of this code or of any other ordinances of this *jurisdiction*.

R105.5 Expiration. Every *permit* issued shall become invalid unless the work authorized by such *permit* is commenced within 180 days after its issuance or after commencement of work if more than 180 days pass between inspections. The building official is authorized to grant, in writing, one or more extensions of time, for periods not more than 180 days each. The extension shall be requested in writing and justifiable cause demonstrated.

R105.6 Suspension or revocation. The *building official* is authorized to suspend or revoke a *permit* issued under the provisions of this code wherever the *permit* is issued in error or on the basis of incorrect, inaccurate or incomplete information, or in violation of any ordinance or regulation or any of the provisions of this code.

* **R105.7 Placement of permit.** The building *permit* or a copy shall be kept on the site of the work until the completion of the project.

R105.8 Responsibility. It shall be the duty of every person who performs work for the installation or repair of building, structure, electrical, gas, mechanical or plumbing systems, for which this code is applicable, to comply with this code.

R105.9 Preliminary inspection. Before issuing a *permit*, the *building official* is authorized to examine or cause to be examined buildings, structures and sites for which an application has been filed.

SECTION R106 CONSTRUCTION DOCUMENTS

* **R106.1 Submittal documents.** Submittal documents consisting of *construction documents*, and other data shall be submitted in two or more sets with each application for a *permit*. The *construction documents* shall be prepared by a registered *design professional* where required by the statutes of the *jurisdiction* in which the project is to be constructed. Where special conditions exist, the *building official* is authorized to require additional *construction documents* to be prepared by a registered *design professional*.

Exception: The *building official* is authorized to waive the submission of *construction documents* and other data not required to be prepared by a registered *design professional* if it is found that the nature of the work applied for is such that reviewing of *construction documents* is not necessary to obtain compliance with this code.

R106.1.1 Information on construction documents. *Construction documents* shall be drawn upon suitable material. Electronic media documents are permitted to be submitted where *approved* by the *building official*. *Construction documents* shall be of sufficient clarity to indicate the location, nature and extent of the work proposed and show in detail that it will conform to the provisions of this code and relevant laws, ordinances, rules and regulations, as determined by the *building official*.

R106.1.2 Manufacturer's installation instructions. Manufacturer's installation instructions, as required by this code, shall be available on the job site at the time of inspection.

R106.1.3 Information on braced wall design. For buildings and structures utilizing braced wall design, and where required by the *building official*, braced wall lines shall be identified on the *construction documents*. Pertinent information including, but not limited to, bracing methods, location and length of *braced wall panels* and foundation requirements of braced wall panels at top and bottom shall be provided.

R106.1.4 Information for construction in flood hazard areas. For buildings and structures located in whole or in part in flood hazard areas as established by Table R301.2(1), *construction documents* shall include:

1. Delineation of flood hazard areas, floodway boundaries and flood zones and the design flood elevation, as appropriate.
2. The elevation of the proposed lowest floor, including *basement*; in areas of shallow flooding (AO Zones), the height of the proposed lowest floor, including *basement*, above the highest adjacent *grade*.
3. The elevation of the bottom of the lowest horizontal structural member in coastal high-hazard areas (V Zone) and in Coastal A Zones where such zones are delineated on flood hazard maps identified in Table R301.2(1) or otherwise delineated by the *jurisdiction*.

4. If design flood elevations are not included on the community's Flood Insurance Rate Map (FIRM), the *building official* and the applicant shall obtain and reasonably utilize any design flood elevation and floodway data available from other sources.

R106.2 Site plan or plot plan. The *construction documents* submitted with the application for *permit* shall be accompanied by a site plan showing the size and location of new construction and existing structures on the site and distances from *lot lines*. In the case of demolition, the site plan shall show construction to be demolished and the location and size of existing structures and construction that are to remain on the site or plot. The *building official* is authorized to waive or modify the requirement for a site plan where the application for *permit* is for *alteration* or repair or where otherwise warranted.

R106.3 Examination of documents. The *building official* shall examine or cause to be examined *construction documents* for code compliance.

R106.3.1 Approval of construction documents. Where the *building official* issues a *permit*, the *construction documents* shall be *approved* in writing or by a stamp that states "REVIEWED FOR CODE COMPLIANCE." One set of *construction documents* so reviewed shall be retained by the *building official*. The other set shall be returned to the applicant, shall be kept at the site of work and shall be open to inspection by the *building official* or a duly authorized representative.

R106.3.2 Previous approvals. This code shall not require changes in the *construction documents*, construction or designated occupancy of a structure for which a lawful *permit* has been heretofore issued or otherwise lawfully authorized, and the construction of which has been pursued in good faith within 180 days after the effective date of this code and has not been abandoned.

R106.3.3 Phased approval. The *building official* is authorized to issue a *permit* for the construction of foundations or any other part of a building or structure before the *construction documents* for the whole building or structure have been submitted, provided that adequate information and detailed statements have been filed complying with pertinent requirements of this code. The holder of such *permit* for the foundation or other parts of a building or structure shall proceed at the holder's own risk with the building operation and without assurance that a *permit* for the entire structure will be granted.

R106.4 Amended construction documents. Work shall be installed in accordance with the *approved construction documents*, and any changes made during construction that are not in compliance with the *approved construction documents* shall be resubmitted for approval as an amended set of *construction documents*.

R106.5 Retention of construction documents. One set of *approved construction documents* shall be retained by the *building official* for a period of not less than 180 days from date of completion of the permitted work, or as required by state or local laws.

SECTION R112 BOARD OF APPEALS

R112.1 General. In order to hear and decide appeals of orders, decisions or determinations made by the *building official* relative to the application and interpretation of this code, there shall be and is hereby created a board of appeals. The *building official* shall be an ex officio member of said board but shall not have a vote on any matter before the board. The board of appeals shall be appointed by the governing body and shall hold office at its pleasure. The board shall adopt rules of procedure for conducting its business, and shall render decisions and findings in writing to the appellant with a duplicate copy to the *building official*.

R112.2 Limitations on authority. An application for appeal shall be based on a claim that the true intent of this code or the rules legally adopted thereunder have been incorrectly interpreted, the provisions of this code do not fully apply or an equally good or better form of construction is proposed. The board shall not have authority to waive requirements of this code.

* **R112.3 Qualifications.** The board of appeals shall consist of members who are qualified by experience and training to pass judgement on matters pertaining to building construction and are not employees of the *jurisdiction*.

R112.4 Administration. The *building official* shall take immediate action in accordance with the decision of the board.

SECTION R113 VIOLATIONS

R113.1 Unlawful acts. It shall be unlawful for any person, firm or corporation to erect, construct, alter, extend, repair, move, remove, demolish or occupy any building, structure or *equipment* regulated by this code, or cause same to be done, in conflict with or in violation of any of the provisions of this code.

R113.2 Notice of violation. The *building official* is authorized to serve a notice of violation or order on the person responsible for the erection, construction, *alteration*, extension, repair, moving, removal, demolition or occupancy of a building or structure in violation of the provisions of this code, or in violation of a detail statement or a plan *approved* thereunder, or in violation of a *permit* or certificate issued under the provisions of this code. Such order shall direct the discontinuance of the illegal action or condition and the abatement of the violation.

R113.3 Prosecution of violation. If the notice of violation is not complied with in the time prescribed by such notice, the *building official* is authorized to request the legal counsel of the *jurisdiction* to institute the appropriate proceeding at law or in equity to restrain, correct or abate such violation, or to require the removal or termination of the unlawful occupancy of the building or structure in violation of the provisions of this code or of the order or direction made pursuant thereto.

R113.4 Violation penalties. Any person who violates a provision of this code or fails to comply with any of the requirements thereof or who erects, constructs, alters or repairs a building or structure in violation of the *approved construction documents* or directive of the *building official*, or of a *permit* or certificate issued under the provisions of this code, shall be subject to penalties as prescribed by law.

SECTION R114 STOP WORK ORDER

* **R114.1 Notice to owner or the owner's authorized agent.** Upon notice from the *building official* that work on any building or structure is being executed contrary to the provisions of this code or in an unsafe and dangerous manner, such work shall be immediately stopped. The stop work order shall be in writing and shall be given to the owner of the property involved, or to the owner's authorized agent or to the person performing the work and shall state the conditions under which work will be permitted to resume.

* **R114.2 Unlawful continuance.** Any person who shall continue any work in or about the structure after having been served with a stop work order, except such work as that person is directed to perform to remove a violation or unsafe condition, shall be subject to penalties as prescribed by law.

Electrical installations shall be in accordance with Chapters 34 through 43. Penetrations of the membrane of common walls for electrical outlet boxes shall be in accordance with Section R302.4.

1. Where a fire sprinkler system in accordance with Section P2904 is provided, the common wall shall be not less than a 1-hour fire-resistance-rated wall assembly tested in accordance with ASTM E119, UL 263 or Section 703.3 of the *International Building Code*.
2. Where a fire sprinkler system in accordance with Section P2904 is not provided, the common wall shall be not less than a 2-hour fire-resistance-rated wall assembly tested in accordance with ASTM E119, UL 263 or Section 703.3 of the *International Building Code*.

R302.2.3 Continuity. The fire-resistance-rated wall or assembly separating townhouses shall be continuous from the foundation to the underside of the roof sheathing, deck or slab. The fire-resistance rating shall extend the full length of the wall or assembly, including wall extensions through and separating attached enclosed accessory structures.

R302.2.4 Parapets for townhouses. Parapets constructed in accordance with Section R302.2.5 shall be constructed for townhouses as an extension of exterior walls or common walls in accordance with the following:

1. Where roof surfaces adjacent to the wall or walls are at the same elevation, the parapet shall extend not less than 30 inches (762 mm) above the roof surfaces.
2. Where roof surfaces adjacent to the wall or walls are at different elevations and the higher roof is not more than 30 inches (762 mm) above the lower roof, the parapet shall extend not less than 30 inches (762 mm) above the lower roof surface.

Exception: A parapet is not required in the preceding two cases where the roof covering complies with a minimum Class C rating as tested in accordance with ASTM E108 or UL 790 and the roof decking or sheathing is of noncombustible materials or fire-retardant-treated wood for a distance of 4 feet (1219 mm) on each side of the wall or walls, or one layer of $\frac{3}{8}$ -inch (15.9 mm) Type X gypsum board is installed directly beneath the roof decking or sheathing, supported by not less than nominal 2-inch (51 mm) ledgers attached to the sides of the roof framing members, for a distance of not less than 4 feet (1219 mm) on each side of the wall or walls and any openings or penetrations in the roof are not within 4 feet (1219 mm) of the common walls. Fire-retardant-treated wood shall meet the requirements of Sections R802.1.5 and R803.2.1.2.

3. A parapet is not required where roof surfaces adjacent to the wall or walls are at different elevations and the higher roof is more than 30 inches (762 mm) above the lower roof. The common wall construction from the lower roof to the underside of the higher roof deck shall have not less than a 1-hour

fire-resistance rating. The wall shall be rated for exposure from both sides.

R302.2.5 Parapet construction. Parapets shall have the same fire-resistance rating as that required for the supporting wall or walls. On any side adjacent to a roof surface, the parapet shall have noncombustible faces for the uppermost 18 inches (457 mm), to include counterflashing and coping materials. Where the roof slopes toward a parapet at slopes greater than 2 units vertical in 12 units horizontal (16.7-percent slope), the parapet shall extend to the same height as any portion of the roof within a distance of 3 feet (914 mm), and the height shall be not less than 30 inches (762 mm).

R302.2.6 Structural independence. Each individual townhouse shall be structurally independent.

Exceptions:

1. Foundations supporting exterior walls or common walls.
2. Structural roof and wall sheathing from each unit fastened to the common wall framing.
3. Nonstructural wall and roof coverings.
4. Flashing at termination of roof covering over common wall.
5. Townhouses separated by a common wall as provided in Section R302.2.2, Item 1 or 2.

R302.3 Two-family dwellings. Dwelling units in two-family dwellings shall be separated from each other by wall and floor assemblies having not less than a 1-hour fire-resistance rating where tested in accordance with ASTM E119, UL 263 or Section 703.3 of the *International Building Code*. Fire-resistance-rated floor/ceiling and wall assemblies shall extend to and be tight against the exterior wall, and wall assemblies shall extend from the foundation to the underside of the roof sheathing.

Exceptions:

1. A fire-resistance rating of $\frac{1}{2}$ hour shall be permitted in buildings equipped throughout with an automatic sprinkler system installed in accordance with NFPA 13.
2. Wall assemblies need not extend through attic spaces where the ceiling is protected by not less than $\frac{5}{8}$ -inch (15.9 mm) Type X gypsum board, an attic draft stop constructed as specified in Section R302.12.1 is provided above and along the wall assembly separating the dwellings and the structural framing supporting the ceiling is protected by not less than $\frac{1}{2}$ -inch (12.7 mm) gypsum board or equivalent.

R302.3.1 Supporting construction. Where floor assemblies are required to be fire-resistance rated by Section R302.3, the supporting construction of such assemblies shall have an equal or greater fire-resistance rating.

R302.4 Dwelling unit rated penetrations. Penetrations of wall or floor-ceiling assemblies required to be fire-resistance rated in accordance with Section R302.2 or R302.3 shall be protected in accordance with this section.

R311.7.11.2 Handrails of alternating tread devices. Handrails shall be provided on both sides of alternating tread devices and shall comply with Sections R311.7.8.2 to R311.7.8.6. Handrail height shall be uniform, not less than 30 inches (762 mm) and not more than 34 inches (864 mm).

R311.7.12 Ships ladders. Ships ladders shall not be used as an element of a means of egress. Ships ladders shall be permitted provided that a required means of egress stairway or ramp serves the same space at each adjoining level or where a means of egress is not required. The clear width at and below the handrails shall be not less than 20 inches.

Exception: Ships ladders are allowed to be used as an element of a means of egress for lofts, mezzanines and similar areas of 200 gross square feet (18.6 m²) or less that do not provide exclusive access to a kitchen or bathroom.

R311.7.12.1 Treads of ships ladders. Treads shall have a depth of not less than 5 inches (127 mm). The tread shall be projected such that the total of the tread depth plus the nosing projection is not less than 8½ inches (216 mm). The riser height shall be not more than 9½ inches (241 mm).

R311.7.12.2 Handrails of ships ladders. Handrails shall be provided on both sides of ships ladders and shall comply with Sections R311.7.8.2 to R311.7.8.6. Handrail height shall be uniform, not less than 30 inches (762 mm) and not more than 34 inches (864 mm).

R311.8 Ramps.

R311.8.1 Maximum slope. Ramps serving the egress door required by Section R311.2 shall have a slope of not more than 1 unit vertical in 12 units horizontal (8.3-percent slope). Other ramps shall have a maximum slope of 1 unit vertical in 8 units horizontal (12.5 percent).

Exception: Where it is technically infeasible to comply because of site constraints, ramps shall have a slope of not more than 1 unit vertical in 8 units horizontal (12.5 percent).

R311.8.2 Landings required. There shall be a floor or landing at the top and bottom of each ramp, where doors open onto ramps, and where ramps change directions. The width of the landing perpendicular to the ramp slope shall be not less than 36 inches (914 mm).

R311.8.3 Handrails required. Handrails shall be provided on not less than one side of ramps exceeding a slope of one unit vertical in 12 units horizontal (8.33-percent slope).

R311.8.3.1 Height. Handrail height, measured above the finished surface of the ramp slope, shall be not less than 34 inches (864 mm) and not more than 38 inches (965 mm).

R311.8.3.2 Grip size. Handrails on ramps shall comply with Section R311.7.8.5.

R311.8.3.3 Continuity. Handrails where required on ramps shall be continuous for the full length of the

ramp. Handrail ends shall be returned or shall terminate in newel posts or safety terminals. Handrails adjacent to a wall shall have a space of not less than 1½ inches (38 mm) between the wall and the handrails.

SECTION R312 GUARDS AND WINDOW FALL PROTECTION

R312.1 Guards. *Guards* shall be provided in accordance with Sections R312.1.1 through R312.1.4.

* **R312.1.1 Where required.** *Guards* shall be provided for those portions of open-sided walking surfaces, including stairs, ramps and landings, that are located more than 30 inches (762 mm) measured vertically to the floor or *grade* below at any point within 36 inches (914 mm) horizontally to the edge of the open side. Insect screening shall not be considered as a *guard*.

R312.1.2 Height. Required *guards* at open-sided walking surfaces, including stairs, porches, balconies or landings, shall be not less than 36 inches (914 mm) in height as measured vertically above the adjacent walking surface or the line connecting the *nosings*.

Exceptions:

1. *Guards* on the open sides of stairs shall have a height of not less than 34 inches (864 mm) measured vertically from a line connecting the *nosings*.
2. Where the top of the *guard* serves as a handrail on the open sides of stairs, the top of the *guard* shall be not less than 34 inches (864 mm) and not more than 38 inches (965 mm) as measured vertically from a line connecting the *nosings*.

R312.1.3 Opening limitations. Required *guards* shall not have openings from the walking surface to the required *guard* height that allow passage of a sphere 4 inches (102 mm) in diameter.

Exceptions:

1. The triangular openings at the open side of stair, formed by the riser, tread and bottom rail of a *guard*, shall not allow passage of a sphere 6 inches (153 mm) in diameter.
2. *Guards* on the open side of stairs shall not have openings that allow passage of a sphere 4¾ inches (111 mm) in diameter.

R312.1.4 Exterior plastic composite guards. Plastic composite exterior *guards* shall comply with the requirements of Section R317.4.

R312.2 Window fall protection. Window fall protection shall be provided in accordance with Sections R312.2.1 and R312.2.2.

R312.2.1 Window sills. In dwelling units, where the top of the sill of an operable window opening is located less than 24 inches (610 mm) above the finished floor and greater than 72 inches (1829 mm) above the finished *grade* or

R403.1.1 Minimum size. The minimum width, W , and thickness, T , for concrete footings shall be in accordance with Tables R403.1(1) through R403.1(3) and Figure R403.1(1) or R403.1.3, as applicable. The footing width shall be based on the load-bearing value of the soil in accordance with Table R401.4.1. Footing projections, P , shall be not less than 2 inches (51 mm) and shall not exceed the thickness of the footing. Footing thickness and projection for fireplaces shall be in accordance with Section R1001.2. The size of footings supporting piers and columns shall be based on the tributary load and allowable soil pressure in accordance with Table R401.4.1. Footings for wood foundations shall be in accordance with the details set forth in Section R403.2, and Figures R403.1(2) and R403.1(3). Footings for precast foundations shall be in accordance with the details set forth in Section R403.4, Table R403.4, and Figures R403.4(1) and R403.4(2).

R403.1.2 Continuous footing in Seismic Design Categories D_0 , D_1 and D_2 . Exterior walls of buildings located in Seismic Design Categories D_0 , D_1 and D_2 shall be supported by continuous solid or fully grouted masonry or concrete footings. Other footing materials or systems shall be designed in accordance with accepted engineering practice. Required interior *braced wall panels* in buildings located in Seismic Design Categories D_0 , D_1 and D_2 with plan dimensions greater than 50 feet (15 240 mm) shall be supported by continuous solid or fully grouted masonry or concrete footings in accordance with Section R403.1.3.4, except for two-story buildings in Seismic Design Category D_2 , in which all *braced wall panels*, interior and exterior, shall be supported on continuous foundations.

Exception: Two-story buildings shall be permitted to have interior *braced wall panels* supported on continuous foundations at intervals not exceeding 50 feet (15 240 mm) provided that:

1. The height of cripple walls does not exceed 4 feet (1219 mm).
2. First-floor braced wall panels are supported on doubled floor joists, continuous blocking or floor beams.
3. The distance between bracing lines does not exceed twice the building width measured parallel to the braced wall line.

R403.1.3 Footing and stem wall reinforcing in Seismic Design Categories D_0 , D_1 , and D_2 . Concrete footings located in Seismic Design Categories D_0 , D_1 and D_2 , as established in Table R301.2(1), shall have minimum reinforcement in accordance with this section and Figure R403.1.3. Reinforcement shall be installed with support and cover in accordance with Section R403.1.3.5.

R403.1.3.1 Concrete stem walls with concrete footings. In Seismic Design Categories D_0 , D_1 and D_2 where a construction joint is created between a concrete footing and a concrete stem wall, not fewer than one No. 4 vertical bar shall be installed at not more than 4 feet (1219 mm) on center. The vertical bar shall have a standard hook and extend to the bottom of the footing and shall have support and cover as specified in Section

R403.1.3.5.3 and extend not less than 14 inches (357 mm) into the stem wall. Standard hooks shall comply with Section R608.5.4.5. Not fewer than one No. 4 horizontal bar shall be installed within 12 inches (305 mm) of the top of the stem wall and one No. 4 horizontal bar shall be located 3 to 4 inches (76 mm to 102 mm) from the bottom of the footing.

R403.1.3.2 Masonry stem walls with concrete footings. In Seismic Design Categories D_0 , D_1 and D_2 where a masonry stem wall is supported on a concrete footing, not fewer than one No. 4 vertical bar shall be installed at not more than 4 feet (1219 mm) on center. The vertical bar shall have a standard hook and extend to the bottom of the footing and shall have support and cover as specified in Section R403.1.3.5.3 and extend not less than 14 inches (357 mm) into the stem wall. Standard hooks shall comply with Section R608.5.4.5. Not fewer than one No. 4 horizontal bar shall be installed within 12 inches (305 mm) of the top of the wall and one No. 4 horizontal bar shall be located 3 to 4 inches (76 mm to 102 mm) from the bottom of the footing. Masonry stem walls shall be solid grouted.

R403.1.3.3 Slabs-on-ground with turned-down footings. In Seismic Design Categories D_0 , D_1 and D_2 , slabs-on-ground cast monolithically with turned-down footings shall have not fewer than one No. 4 bar at the top and the bottom of the footing or one No. 5 bar or two No. 4 bars in the middle third of the footing depth.

Where the slab is not cast monolithically with the footing, No. 3 or larger vertical dowels with standard hooks on each end shall be installed at not more than 4 feet (1219 mm) on center in accordance with Figure R403.1.3, Detail 2. Standard hooks shall comply with Section R608.5.4.5.

R403.1.3.4 Interior bearing and braced wall panel footings in Seismic Design Categories D_0 , D_1 and D_2 . In Seismic Design Categories D_0 , D_1 and D_2 , interior footings supporting bearing walls or *braced wall panels*, and cast monolithically with a slab on *grade*, shall extend to a depth of not less than 12 inches (305 mm) below the top of the slab.

R403.1.3.5 Reinforcement. Footing and stem wall reinforcement shall comply with Sections R403.1.3.5.1 through R403.1.3.5.4.

R403.1.3.5.1 Steel reinforcement. Steel reinforcement shall comply with the requirements of ASTM A615, A706 or A996. ASTM A996 bars produced from rail steel shall be Type R. The minimum yield strength of reinforcing steel shall be 40,000 psi (Grade 40) (276 MPa).

R403.1.3.5.2 Location of reinforcement in wall. The center of vertical reinforcement in stem walls shall be located at the centerline of the wall. Horizontal and vertical reinforcement shall be located in footings and stem walls to provide the minimum cover required by Section R403.1.3.5.3.

FOUNDATIONS

**TABLE R404.1.1(1)
PLAIN MASONRY FOUNDATION WALLS¹**

| MAXIMUM WALL HEIGHT (feet) | MAXIMUM UNBALANCED BACKFILL HEIGHT ² (feet) | PLAIN MASONRY ³ MINIMUM NOMINAL WALL THICKNESS (inches) | | |
|-------------------------------|---|--|---|---|
| | | Soil classes ⁴ | | |
| | | GW, GP, SW and SP | GM, GC, SM, SM-SC and ML | SC, MH, ML-CL and inorganic CL |
| 5 | 4 | 6 solid ^d or 8 | 6 solid ^d or 8 | 6 solid ^d or 8 |
| | 5 | 6 solid ^d or 8 | 8 | 10 |
| 6 | 4 | 6 solid ^d or 8 | 6 solid ^d or 8 | 6 solid ^d or 8 |
| | 5 | 6 solid ^d or 8 | 8 | 10 |
| | 6 | 8 | 10 | 12 |
| 7 | 4 | 6 solid ^d or 8 | 8 | 8 |
| | 5 | 6 solid ^d or 8 | 10 | 10 |
| | 6 | 10 | 12 | 10 solid ^d |
| | 7 | 12 | 10 solid ^d | 12 solid ^d |
| 8 | 4 | 6 solid ^d or 8 | 6 solid ^d or 8 | 8 |
| | 5 | 6 solid ^d or 8 | 10 | 12 |
| | 6 | 10 | 12 | 12 solid ^d |
| | 7 | 12 | 12 solid ^d | Footnote e |
| | 8 | 10 grout ^d | 12 grout ^d | Footnote e |
| 9 | 4 | 6 grout ^d or 8 solid ^d or 12 | 6 grout ^d or 8 solid ^d | 8 grout ^d or 10 solid ^d |
| | 5 | 6 grout ^d or 10 solid ^d | 8 grout ^d or 12 solid ^d | 8 grout ^d |
| | 6 | 8 grout ^d or 12 solid ^d | 10 grout ^d | 10 grout ^d |
| | 7 | 10 grout ^d | 10 grout ^d | 12 grout |
| | 8 | 10 grout ^d | 12 grout | Footnote e |
| | 9 | 12 grout | Footnote e | Footnote e |

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 pound per square inch = 6.895 Pa.

- a. Mortar shall be Type M or S and masonry shall be laid in running bond. UngROUTED hollow masonry units are permitted except where otherwise indicated.
- b. Soil classes are in accordance with the Unified Soil Classification System. Refer to Table R405.1.
- c. Unbalanced backfill height is the difference in height between the exterior finish ground level and the lower of the top of the concrete footing that supports the foundation wall or the interior finish ground level. Where an interior concrete slab-on-grade is provided and is in contact with the interior surface of the foundation wall, measurement of the unbalanced backfill height from the exterior finish ground level to the top of the interior concrete slab is permitted.
- d. Solid indicates solid masonry unit; grout indicates grouted hollow units.
- e. Wall construction shall be in accordance with either Table R404.1.1(2), Table R404.1.1(3), Table R404.1.1(4), or a design shall be provided.
- f. The use of this table shall be prohibited for soil classifications not shown.

DUCT SYSTEMS

(152 mm) below the combustible framing. This duct shall comply with the provisions of Section M1601.1. A non-combustible receptacle shall be installed below any floor opening into the plenum in accordance with the following requirements:

1. The receptacle shall be securely suspended from the floor members and shall be not more than 18 inches (457 mm) below the floor opening.
2. The area of the receptacle shall extend 3 inches (76 mm) beyond the opening on all sides.
3. The perimeter of the receptacle shall have a vertical lip not less than 1 inch (25 mm) in height at the open sides.

M1601.5.4 Access. Access to an under-floor plenum shall be provided through an opening in the floor with minimum dimensions of 18 inches by 24 inches (457 mm by 610 mm).

M1601.5.5 Furnace controls. The furnace shall be equipped with an automatic control that will start the air-circulating fan when the air in the furnace bonnet reaches a temperature not higher than 150°F (66°C). The furnace shall additionally be equipped with an *approved* automatic control that limits the outlet air temperature to 200°F (93°C).

M1601.6 Independent garage HVAC systems. Furnaces and air-handling systems that supply air to living spaces shall not supply air to or return air from a garage.

SECTION M1602 RETURN AIR

M1602.1 Outdoor air openings. Outdoor intake openings shall be located in accordance with Section R303.5.1. Opening protection shall be in accordance with Section R303.6

* **M1602.2 Return air openings.** Return air openings for heating, ventilation and air-conditioning systems shall comply with all of the following:

1. Openings shall not be located less than 10 feet (3048 mm) measured in any direction from an open combustion chamber or draft hood of another appliance located in the same room or space.
2. The amount of return air taken from any room or space shall be not greater than the flow rate of supply air delivered to such room or space.
3. Return and transfer openings shall be sized in accordance with the appliance or equipment manufacturer's installation instructions, Manual D or the design of the registered design professional.
4. Return air shall not be taken from a closet, bathroom, toilet room, kitchen, garage, mechanical room, boiler room, furnace room or unconditioned attic.

Exceptions:

1. Taking return air from a kitchen is not prohibited where such return air openings serve the

kitchen only, and are located not less than 10 feet (3048 mm) from the cooking appliances.

2. Dedicated forced-air systems serving only the garage shall not be prohibited from obtaining return air from the garage.
5. For other than dedicated HVAC systems, return air shall not be taken from indoor swimming pool enclosures and associated deck areas except where the air in such spaces is dehumidified,
6. Taking return air from an unconditioned crawl space shall not be accomplished through a direct connection to the return side of a forced-air furnace. Transfer openings in the crawl space enclosure shall not be prohibited.
7. Return air from one dwelling unit shall not be discharged into another dwelling unit.

G2417.2 (406.2) Test medium. The test medium shall be air, nitrogen, carbon dioxide or an inert gas. Oxygen shall not be used as a test medium.

G2417.3 (406.3) Test preparation. *Pipe* joints, including welds, shall be left exposed for examination during the test.

Exception: Covered or *concealed pipe* end joints that have been previously tested in accordance with this *code*.

G2417.3.1 (406.3.1) Expansion joints. Expansion joints shall be provided with temporary restraints, if required, for the additional thrust load under test.

G2417.3.2 (406.3.2) Appliance and equipment isolation. *Appliances* and *equipment* that are not to be included in the test shall be either disconnected from the *pipng* or isolated by blanks, blind flanges or caps.

G2417.3.3 (406.3.3) Appliance and equipment disconnection. Where the *pipng system* is connected to *appliances* or *equipment* designed for operating pressures of less than the test pressure, such *appliances* or *equipment* shall be isolated from the *pipng system* by disconnecting them and capping the *outlet(s)*.

G2417.3.4 (406.3.4) Valve isolation. Where the *pipng system* is connected to *appliances* or *equipment* designed for operating pressures equal to or greater than the test pressure, such *appliances* or *equipment* shall be isolated from the *pipng system* by closing the individual *appliance* or *equipment* shutoff valve(s).

G2417.3.5 (406.3.5) Testing precautions. Testing of *pipng* systems shall be performed in a manner that protects the safety of employees and the public during the test.

G2417.4 (406.4) Test pressure measurement. Test pressure shall be measured with a manometer or with a pressure-measuring device designed and calibrated to read, record, or indicate a pressure loss caused by leakage during the *pressure test* period. The source of pressure shall be isolated before the *pressure tests* are made. Mechanical gauges used to measure test pressures shall have a range such that the highest end of the scale is not greater than five times the test pressure.

G2417.4.1 (406.4.1) Test pressure. The test pressure to be used shall be not less than 1½ times the proposed maximum working pressure, but not less than 3 psig (20 kPa gauge), irrespective of design pressure. Where the test pressure exceeds 125 psig (862 kPa gauge), the test pressure shall not exceed a value that produces a hoop stress in the *pipng* greater than 50 percent of the specified minimum yield strength of the pipe.

G2417.4.2 (406.4.2) Test duration. The test duration shall be not less than 10 minutes.

G2417.5 (406.5) Detection of leaks and defects. The *pipng system* shall withstand the test pressure specified without showing any evidence of leakage or other defects. Any reduction of test pressures as indicated by pressure gauges shall be deemed to indicate the presence of a leak unless such reduction can be readily attributed to some other cause.

G2417.5.1 (406.5.1) Detection methods. The leakage shall be located by means of an *approved* gas detector, a noncorrosive leak detection fluid or other *approved* leak detection methods.

G2417.5.2 (406.5.2) Corrections. Where leakage or other defects are located, the affected portion of the *pipng system* shall be repaired or replaced and retested.

G2417.6 (406.6) Piping system and equipment leakage check. Leakage checking of systems and *equipment* shall be in accordance with Sections G2417.6.1 through G2417.6.4.

G2417.6.1 (406.6.1) Test gases. Leak checks using fuel gas shall be permitted in *pipng systems* that have been pressure tested in accordance with Section G2417.

G2417.6.2 (406.6.2) Before turning gas on. During the process of turning gas on into a system of new *gas pipng*, the entire system shall be inspected to determine that there are no open fittings or ends and that all *valves* at unused outlets are closed and plugged or capped.

G2417.6.3 (406.6.3) Leak check. Immediately after the gas is turned on into a new system or into a system that has been initially restored after an interruption of service, the *pipng system* shall be checked for leakage. Where leakage is indicated, the gas supply shall be shut off until the necessary repairs have been made.

G2417.6.4 (406.6.4) Placing appliances and equipment in operation. *Appliances* and *equipment* shall not be placed in operation until after the *pipng system* has been checked for leakage in accordance with Section G2417.6.3, the *pipng system* has been purged in accordance with Section G2417.7 and the connections to the *appliances* have been checked for leakage.

G2417.7 (406.7) Purging. The purging of *pipng* shall be in accordance with Sections G2417.7.1 through 2417.7.3.

G2417.7.1 (406.7.1) Piping systems required to be purged outdoors. The purging of *pipng systems* shall be in accordance with the provisions of Sections G2417.7.1.1 through G2417.7.1.4 where the *pipng system* meets either of the following:

1. The design operating gas pressure is greater than 2 psig (13.79 kPa).
2. The *pipng* being purged contains one or more sections of pipe or tubing meeting the size and length criteria of Table G2417.7.1.1.

G2417.7.1.1 (406.7.1.1) Removal from service. Where existing *gas pipng* is opened, the section that is opened shall be isolated from the gas supply and the line pressure vented in accordance with Section G2417.7.1.3. Where *gas pipng* meeting the criteria of Table G2417.7.1.1 is removed from service, the residual fuel gas in the *pipng* shall be displaced with an inert gas.

GENERAL REQUIREMENTS

SECTION E3406

ELECTRICAL CONDUCTORS AND CONNECTIONS

E3406.1 General. This section provides general requirements for conductors, connections and splices. These requirements do not apply to conductors that form an integral part of equipment, such as motors, appliances and similar equipment, or to conductors specifically provided for elsewhere in Chapters 34 through 43. (310.1)

*

E3406.2 Conductor material. Conductors used to conduct current shall be of copper or aluminum except as otherwise provided in Chapters 34 through 43. Where the conductor material is not specified, the material and the sizes given in these chapters shall apply to copper conductors. Where other materials are used, the conductor sizes shall be changed accordingly. (110.5)

E3406.3 Minimum size of conductors. The minimum size of conductors for feeders and branch circuits shall be 14 AWG copper and 12 AWG aluminum. The minimum size of service conductors shall be as specified in Chapter 36. The minimum size of Class 2 remote control, signaling and power-limited circuits conductors shall be as specified in Chapter 43. [310.106(A)]

E3406.4 Stranded conductors. Where installed in raceways, conductors 8 AWG and larger shall be stranded. A solid 8 AWG conductor shall be permitted to be installed in a raceway only to meet the requirements of Sections E3610.2 and E4204. [310.106(C)]

E3406.5 Individual conductor insulation. Except where otherwise permitted in Sections E3605.1 and E3908.9, and E4303, current-carrying conductors shall be insulated. Insulated conductors shall have insulation types identified as RHH, RHW, RHW-2, THHN, THHW, THW, THW-2, THWN, THWN-2,

TW, UF, USE, USE-2, XHHW or XHHW-2. Insulation types shall be approved for the application. [310.10(B), (C), 310.104]

E3406.6 Conductors in parallel. Circuit conductors that are connected in parallel shall be limited to sizes 1/0 AWG and larger. Conductors in parallel shall: be of the same length; consist of the same conductor material; be the same circular mil area and have the same insulation type. Conductors in parallel shall be terminated in the same manner. Where run in separate raceways or cables, the raceway or cables shall have the same physical characteristics. Where conductors are in separate raceways or cables, the same number of conductors shall be used in each raceway or cable. [310.10(H)]

E3406.7 Conductors of the same circuit. All conductors of the same circuit and, where used, the grounded conductor and all equipment grounding conductors and bonding conductors shall be contained within the same raceway, cable or cord. [300.3(B)]

E3406.8 Aluminum and copper connections. Terminals and splicing connectors shall be identified for the material of the conductors joined. Conductors of dissimilar metals shall not be joined in a terminal or splicing connector where physical contact occurs between dissimilar conductors such as copper and aluminum, copper and copper-clad aluminum, or aluminum and copper-clad aluminum, except where the device is listed for the purpose and conditions of application. Materials such as inhibitors and compounds shall be suitable for the application and shall be of a type that will not adversely affect the conductors, installation or equipment. (110.14)

E3406.9 Fine stranded conductors. Connectors and terminals for conductors that are more finely stranded than Class B and Class C stranding as shown in Table E3406.9, shall be identified for the specific conductor class or classes. (110.14)

**TABLE E3406.9 (Chapter 9, Table 10)
CONDUCTOR STRANDING^a**

| CONDUCTOR SIZE | | NUMBER OF STRANDS | | |
|----------------|-----------------|-------------------|---------|----------------|
| | | Copper | | Aluminum |
| AWG or kcmil | mm ² | Class B | Class C | Class B |
| 24-30 | 0.20-0.05 | Note a | — | — |
| 22 | 0.32 | 7 | — | — |
| 20 | 0.52 | 10 | — | — |
| 18 | 0.82 | 16 | — | — |
| 16 | 1.3 | 26 | — | — |
| 14-2 | 2.1-33.6 | 7 | 19 | 7 ^b |
| 1-4/0 | 42.4-107 | 19 | 37 | 19 |
| 250-500 | 127-253 | 37 | 61 | 37 |
| 600-1000 | 304-508 | 61 | 91 | 61 |
| 1250-1500 | 635-759 | 91 | 127 | 91 |
| 1750-2000 | 886-1016 | 127 | 271 | 127 |

a. Number of strands vary.

b. Aluminum 14 AWG (2.1 mm²) is not available.

c. With the permission of Underwriters Laboratories, Inc., this material is reproduced from UL Standard 486A-B, Wire Connectors, which is copyrighted by Underwriters Laboratories, Inc., Northbrook, Illinois. While use of this material has been authorized, UL shall not be responsible for the manner in which the information is presented, nor for any interpretations thereof.

APPENDIX T [RE]

SOLAR-READY PROVISIONS—DETACHED ONE- AND TWO-FAMILY DWELLINGS AND TOWNHOUSES

This appendix is informative and is not part of the code.

User note:

About this appendix: Harnessing the heat or radiation from the sun's rays is a method to reduce the energy consumption of a building. Although Appendix T does not require solar systems to be installed for a building, it does require the space(s) for installing such systems, providing pathways for connections and requiring adequate structural capacity of roof systems to support solar systems.

Section numbers in parenthesis are those in Appendix A of the residential provisions of the International Energy Conservation Code®.

SECTION T101 SCOPE

T101.1 (RA101.1) General. These provisions shall be applicable for new construction where solar-ready provisions are required.

SECTION T102 (RA102) GENERAL DEFINITION

T102.1 General. The following term shall, for the purpose of this appendix, have the meaning shown herein.

SOLAR-READY ZONE. A section or sections of the roof or building overhang designated and reserved for the future installation of a solar photovoltaic or solar thermal system.

SECTION T103 (RA103) SOLAR-READY ZONE

T103.1 General. New detached one- and two-family dwellings, and townhouses with not less than 600 square feet (55.74 m²) of roof area oriented between 90 degrees and 270 degrees of true north, shall comply with Sections T103.2 through T103.10.

Exceptions:

1. New residential buildings with a permanently installed on-site renewable energy system.
2. A building where all areas of the roof that would otherwise meet the requirements of Section T103 are in full or partial shade for more than 70 percent of daylight hours annually

T103.2 (RA103.2) Construction document requirements for solar-ready zone. Construction documents shall indicate the solar-ready zone.

T103.3 (RA103.3) Solar-ready zone area. The total solar-ready zone area shall be not less than 300 square feet (27.87 m²) exclusive of mandatory access or setback areas as required by the *International Fire Code*. New townhouses three stories or less in height above grade plane and with a

total floor area less than or equal to 2,000 square feet (185.8 m²) per dwelling shall have a solar-ready zone area of not less than 150 square feet (13.94 m²). The solar-ready zone shall be composed of areas not less than 5 feet (1524 mm) in width and not less than 80 square feet (7.44 m²) exclusive of access or set-back areas as required by the *International Fire Code*.

T103.4 (RA103.4) Obstructions. Solar-ready zones shall be free from obstructions, including but not limited to vents, chimneys, and roof-mounted equipment.

T103.5 Shading. The solar-ready zone shall be set back from any existing or new, permanently affixed object on the building or site that is located south, east or west of the solar zone a distance not less than two times the object's height above the nearest point on the roof surface. Such objects include, but are not limited to, taller portions of the building itself, parapets, chimneys, antennas, signage, rooftop equipment, trees and roof plantings.

***T103.6 Capped roof penetration sleeve.** A capped roof penetration sleeve shall be provided adjacent to a solar-ready zone located on a roof slope of not greater than 1 unit vertical in 12 units horizontal (8-percent slope). The capped roof penetration sleeve shall be sized to accommodate the future photovoltaic system conduit, but shall have an inside diameter of not less than 1¹/₄ inches (32 mm).

T103.7 (RA103.5) Roof load documentation. The structural design loads for roof dead load and roof live load shall be clearly indicated on the construction documents.

T103.8 (RA103.6) Interconnection pathway. Construction documents shall indicate pathways for routing of conduit or plumbing from the solar-ready zone to the electrical service panel or service hot water system.

T103.9 (RA103.7) Electrical service reserved space. The main electrical service panel shall have a reserved space to allow installation of a dual pole circuit breaker for future solar electric installation and shall be labeled "For Future Solar Electric." The reserved space shall be positioned at the opposite (load) end from the input feeder location or main circuit location.

15.05.060 Building permit fees and valuation.

E. Fee Refunds.

1. The building official may authorize the refunding of any fee collected pursuant to this section that was erroneously paid or collected.
2. The building official may authorize refunding of not more than 80 percent of the building permit fee paid when no work has been done under the permit issued in accordance with this code; not more than 70 percent of the building permit fee after foundation construction has commenced; and not more than 50 percent of the building permit fee after framing or above-grade wall construction has commenced. No building permit fee shall be refunded after the framing or above-grade wall construction has been inspected and approved.
3. The building official may authorize refunding of not more than 80 percent of the plan review deposit when a permit application for which a plan review deposit was paid is canceled or withdrawn before any plan review is commenced; not more than 20 percent of the plan review fee when a permit application is canceled or withdrawn after a plan review correction list has been completed; no plan review deposit or plan review fee shall be refunded after the permit application has been approved for issuance.

2 0 1 8

INTERNATIONAL CODES®

IPC®

A Member of the International Code Family®

INTERNATIONAL
PLUMBING CODE®



SCOPE AND ADMINISTRATION

[A] **106.2 Exempt work.** The following work shall be exempt from the requirement for a permit:

1. The stopping of leaks in drains, water, soil, waste or vent pipe provided, however, that if any concealed trap, drainpipe, water, soil, waste or vent pipe becomes defective and it becomes necessary to remove and replace the same with new material, such work shall be considered as new work and a permit shall be obtained and inspection made as provided in this code.
2. The clearing of stoppages or the repairing of leaks in pipes, valves or fixtures, and the removal and reinstallation of water closets, provided that such repairs do not involve or require the replacement or rearrangement of valves, pipes or fixtures.

Exemption from the permit requirements of this code shall not be deemed to grant authorization for any work to be done in violation of the provisions of this code or any other laws or ordinances of this jurisdiction.

[A] **106.3 Application for permit.** Each application for a permit, with the required fee, shall be filed with the code official on a form furnished for that purpose and shall contain a general description of the proposed work and its location. The application shall be signed by the owner or owner's authorized agent. The permit application shall indicate the proposed *occupancy* of all parts of the building and of that portion of the site or lot, if any, not covered by the building or structure and shall contain such other information required by the code official.

[A] **106.3.1 Construction documents.** Construction documents, engineering calculations, diagrams and other such data shall be submitted in two or more sets with each application for a permit. The code official shall require construction documents, computations and specifications to be prepared and designed by a registered design professional where required by state law. Construction documents shall be drawn to scale and shall be of sufficient clarity to indicate the location, nature and extent of the work proposed and show in detail that the work conforms to the provisions of this code. Construction documents for buildings more than two stories in height shall indicate where penetrations will be made for pipes, fittings and components and shall indicate the materials and methods for maintaining required structural safety, fire-resistance rating and fireblocking.

Exception: The code official shall have the authority to waive the submission of construction documents, calculations or other data if the nature of the work applied for is such that reviewing of construction documents is not necessary to determine compliance with this code.

[A] **106.3.2 Preliminary inspection.** Before a permit is issued, the code official shall be authorized to inspect and evaluate the systems, equipment, buildings, devices, premises and spaces or areas to be used.

[A] **106.3.3 Time limitation of application.** An application for a permit for any proposed work shall be deemed to have been abandoned 180 days after the date of filing, unless such application has been pursued in good faith or a permit has been issued; except that the code official shall

have the authority to grant one or more extensions of time for additional periods not exceeding 180 days each. The extension shall be requested in writing and justifiable cause demonstrated.

[A] **106.4 By whom application is made.** Application for a permit shall be made by the person or agent to install all or part of any plumbing system. The applicant shall meet all qualifications established by statute, or by rules promulgated by this code, or by ordinance or by resolution. The full name and address of the applicant shall be stated in the application.

[A] **106.5 Permit issuance.** The application, construction documents and other data filed by an applicant for permit shall be reviewed by the code official. If the code official finds that the proposed work conforms to the requirements of this code and all laws and ordinances applicable thereto, and that the fees specified in Section 106.6 have been paid, a permit shall be issued to the applicant.

[A] **106.5.1 Approved construction documents.** When the code official issues the permit where construction documents are required, the construction documents shall be endorsed in writing and stamped "APPROVED." Such *approved* construction documents shall not be changed, modified or altered without authorization from the code official. Work shall be done in accordance with the *approved* construction documents.

The code official shall have the authority to issue a permit for the construction of a part of a plumbing system before the entire construction documents for the whole system have been submitted or *approved*, provided that adequate information and detailed statements have been filed complying with all pertinent requirements of this code. The holders of such permit shall proceed at their own risk without assurance that the permit for the entire plumbing system will be granted.

[A] **106.5.2 Validity.** The issuance of a permit or approval of construction documents shall not be construed to be a permit for, or an approval of, any violation of any of the provisions of this code or any other ordinance of the jurisdiction. A permit presuming to give authority to violate or cancel the provisions of this code shall not be valid.

The issuance of a permit based on construction documents and other data shall not prevent the code official from thereafter requiring the correction of errors in said construction documents and other data or from preventing building operations being carried on thereunder where in violation of this code or of other ordinances of this jurisdiction.

✱ [A] **106.5.3 Expiration.** Every permit issued by the code official under the provisions of this code shall expire by limitation and become null and void if the work authorized by such permit is not commenced within 180 days from the date of such permit, or if the work authorized by such permit is suspended or abandoned at any time after the work is commenced for a period of 180 days. Before such work can be recommenced, a new permit shall be first obtained and the fee therefor shall be one-half the amount required for a new permit for such work, provided that changes have not been made and will not be made in the

original construction documents for such work, and provided further that such suspension or abandonment has not exceeded 1 year.

* [A] **106.5.4 Extensions.** Any permittee holding an unexpired permit shall have the right to apply for an extension of the time within which the permittee will commence work under that permit when work is unable to be commenced within the time required by this section for good and satisfactory reasons. The code official shall extend the time for action by the permittee for a period not exceeding 180 days if there is reasonable cause. A permit shall not be extended more than once. The fee for an extension shall be one-half the amount required for a new permit for such work.

[A] **106.5.5 Suspension or revocation of permit.** The code official shall have the authority to suspend or revoke a permit issued under the provisions of this code wherever the permit is issued in error or on the basis of incorrect, inaccurate or incomplete information, or in violation of any ordinance or regulation or any of the provisions of this code.

[A] **106.5.6 Retention of construction documents.** One set of *approved* construction documents shall be retained by the code official for a period of not less than 180 days from date of completion of the permitted work, or as required by state or local laws.

One set of *approved* construction documents shall be returned to the applicant, and said set shall be kept on the site of the building or work at all times during which the work authorized thereby is in progress.

[A] **106.5.7 Previous approvals.** This code shall not require changes in the construction documents, construction or designated *occupancy* of a structure for which a lawful permit has been heretofore issued or otherwise lawfully authorized, and the construction of which has been pursued in good faith within 180 days after the effective date of this code and has not been abandoned.

[A] **106.5.8 Posting of permit.** The permit or a copy shall be kept on the site of the work until the completion of the project.

[A] **106.6 Fees.** A permit shall not be issued until the fees prescribed in Section 106.6.2 have been paid, and an amendment to a permit shall not be released until the additional fee, if any, due to an increase of the plumbing systems, has been paid.

[A] **106.6.1 Work commencing before permit issuance.** Any person who commences any work on a plumbing system before obtaining the necessary permits shall be subject to 100 percent of the usual permit fee in addition to the required permit fees.

[A] **106.6.2 Fee schedule.** The fees for all plumbing work shall be as indicated in the following schedule:

[JURISDICTION TO INSERT APPROPRIATE SCHEDULE]

[A] **106.6.3 Fee refunds.** The code official shall authorize the refunding of fees as follows:

1. The full amount of any fee paid hereunder that was erroneously paid or collected.

2. Not more than [SPECIFY PERCENTAGE] percent of the permit fee paid where work has been done under a permit issued in accordance with this code.
3. Not more than [SPECIFY PERCENTAGE] percent of the plan review fee paid where an application for a permit for which a plan review fee has been paid is withdrawn or canceled before any plan review effort has been expended.

The code official shall not authorize the refunding of any fee paid except upon written application filed by the original permittee not later than 180 days after the date of fee payment.

SECTION 107 INSPECTIONS AND TESTING

[A] **107.1 General.** The code official is authorized to conduct such inspections as are deemed necessary to determine compliance with the provisions of this code. Construction or work for which a permit is required shall be subject to inspection by the code official, and such construction or work shall remain visible and able to be accessed for inspection purposes until *approved*. Approval as a result of an inspection shall not be construed to be an approval of a violation of the provisions of this code or of other ordinances of the jurisdiction. Inspections presuming to give authority to violate or cancel the provisions of this code or of other ordinances of the jurisdiction shall not be valid. It shall be the duty of the permit applicant to cause the work to remain visible and able to be accessed for inspection purposes. Neither the code official nor the jurisdiction shall be liable for expense entailed in the removal or replacement of any material required to allow inspection.

[A] **107.2 Required inspections and testing.** The code official, upon notification from the permit holder or the permit holder's agent, shall make the following inspections and such other inspections as necessary, and shall either release that portion of the construction or shall notify the permit holder or an agent of any violations that must be corrected. The holder of the permit shall be responsible for the scheduling of such inspections.

1. Underground inspection shall be made after trenches or ditches are excavated and bedded, piping installed, and before any backfill is put in place.
2. Rough-in inspection shall be made after the roof, framing, fireblocking, firestopping, draftstopping and bracing is in place and all sanitary, storm and water distribution piping is roughed-in, and prior to the installation of wall or ceiling membranes.
3. Final inspection shall be made after the building is complete, all plumbing fixtures are in place and properly connected, and the structure is ready for occupancy.

[A] **107.2.1 Other inspections.** In addition to the inspections specified in Section 107.2, the code official shall be authorized to make or require other inspections of any construction work to ascertain compliance with the provisions of this code and other laws that are enforced.

[A] 107.7 **Connection of service utilities.** A person shall not make connections from a utility, source of energy, fuel, power, water system or *sewer* system to any building or system that is regulated by this code for which a permit is required until authorized by the code official.

SECTION 108 VIOLATIONS

[A] 108.1 **Unlawful acts.** It shall be unlawful for any person, firm or corporation to erect, construct, alter, repair, remove, demolish or utilize any plumbing system, or cause same to be done, in conflict with or in violation of any of the provisions of this code.

[A] 108.2 **Notice of violation.** The code official shall serve a notice of violation or order to the person responsible for the erection, installation, alteration, extension, repair, removal or demolition of plumbing work in violation of the provisions of this code, or in violation of a detail statement or the *approved* construction documents thereunder, or in violation of a permit or certificate issued under the provisions of this code. Such order shall direct the discontinuance of the illegal action or condition and the abatement of the violation.

[A] 108.3 **Prosecution of violation.** If the notice of violation is not complied with promptly, the code official shall request the legal counsel of the jurisdiction to institute the appropriate proceeding at law or in equity to restrain, correct or abate such violation, or to require the removal or termination of the unlawful occupancy of the structure in violation of the provisions of this code or of the order or direction made pursuant thereto.

* [A] 108.4 **Violation penalties.** Any person who shall violate a provision of this code or shall fail to comply with any of the requirements thereof or who shall erect, install, alter or repair plumbing work in violation of the *approved* construction documents or directive of the code official, or of a permit or certificate issued under the provisions of this code, shall be guilty of a [SPECIFY OFFENSE], punishable by a fine of not more than [AMOUNT] dollars or by imprisonment not exceeding [NUMBER OF DAYS], or both such fine and imprisonment. Each day that a violation continues after due notice has been served shall be deemed a separate offense.

* [A] 108.5 **Stop work orders.** Upon notice from the code official, work on any plumbing system that is being performed contrary to the provisions of this code or in a dangerous or unsafe manner shall immediately cease. Such notice shall be in writing and shall be given to the owner of the property, or to the owner's authorized agent, or to the person performing the work. The notice shall state the conditions under which work is authorized to resume. Where an emergency exists, the code official shall not be required to give a written notice prior to stopping the work. Any person who shall continue any work in or about the structure after having been served with a stop work order, except such work as that person is directed to perform to remove a violation or unsafe condition, shall be liable to a fine of not less than [AMOUNT] dollars or more than [AMOUNT] dollars.

[A] 108.6 **Abatement of violation.** The imposition of the penalties herein prescribed shall not preclude the legal officer of the jurisdiction from instituting appropriate action to prevent unlawful construction or to restrain, correct or abate a violation, or to prevent illegal occupancy of a building, structure or premises, or to stop an illegal act, conduct, business or utilization of the plumbing on or about any premises.

[A] 108.7 **Unsafe plumbing.** Any plumbing regulated by this code that is unsafe or that constitutes a fire or health hazard, insanitary condition, or is otherwise dangerous to human life is hereby declared unsafe. Any use of plumbing regulated by this code constituting a hazard to safety, health or public welfare by reason of inadequate maintenance, dilapidation, obsolescence, fire hazard, disaster, damage or abandonment is hereby declared an unsafe use. Any such unsafe equipment is hereby declared to be a public nuisance and shall be abated by repair, rehabilitation, demolition or removal.

[A] 108.7.1 **Authority to condemn equipment.** Where the code official determines that any plumbing, or portion thereof, regulated by this code has become hazardous to life, health or property or has become insanitary, the code official shall order in writing that such plumbing either be removed or restored to a safe or sanitary condition. A time limit for compliance with such order shall be specified in the written notice. A person shall not use or maintain defective plumbing after receiving such notice.

Where such plumbing is to be disconnected, written notice as prescribed in Section 108.2 shall be given. In cases of immediate danger to life or property, such disconnection shall be made immediately without such notice.

[A] 108.7.2 **Authority to disconnect service utilities.** The code official shall have the authority to authorize disconnection of utility service to the building, structure or system regulated by the technical codes in case of an emergency, where necessary, to eliminate an immediate danger to life or property. Where possible, the owner or the owner's authorized agent and occupant of the building, structure or service system shall be notified of the decision to disconnect utility service prior to taking such action. If not notified prior to disconnecting, the owner, the owner's authorized agent or occupant of the building, structure or service systems shall be notified in writing, as soon as practical thereafter.

[A] 108.7.3 **Connection after order to disconnect.** A person shall not make connections from any energy, fuel, power supply or water distribution system or supply energy, fuel or water to any equipment regulated by this code that has been disconnected or ordered to be disconnected by the code official or the use of which has been ordered to be discontinued by the code official until the code official authorizes the reconnection and use of such equipment.

Where any plumbing is maintained in violation of this code, and in violation of any notice issued pursuant to the provisions of this section, the code official shall institute any appropriate action to prevent, restrain, correct or abate the violation.



SECTION 109 MEANS OF APPEAL

[A] 109.1 Application for appeal. Any person shall have the right to appeal a decision of the code official to the board of appeals. An application for appeal shall be based on a claim that the true intent of this code or the rules legally adopted thereunder have been incorrectly interpreted, the provisions of this code do not fully apply, or an equally good or better form of construction is proposed. The application shall be filed on a form obtained from the code official within 20 days after the notice was served.

[A] 109.2 Membership of board. The board of appeals shall consist of five members appointed by the chief appointing authority as follows: one for 5 years, one for 4 years, one for 3 years, one for 2 years and one for 1 year. Thereafter, each new member shall serve for 5 years or until a successor has been appointed.

[A] 109.2.1 Qualifications. The board of appeals shall consist of five individuals, one from each of the following professions or disciplines:

1. Registered design professional who is a registered architect; or a builder or superintendent of building construction with not less than 10 years' experience, 5 years of which shall have been in responsible charge of work.
2. Registered design professional with structural engineering or architectural experience.
3. Registered design professional with mechanical and plumbing engineering experience; or a mechanical and plumbing contractor with not less than 10 years' experience, 5 years of which shall have been in responsible charge of work.
4. Registered design professional with electrical engineering experience; or an electrical contractor with not less than 10 years' experience, 5 years of which shall have been in responsible charge of work.
5. Registered design professional with fire protection engineering experience; or a fire protection contractor with not less than 10 years' experience, 5 years of which shall have been in responsible charge of work.

[A] 109.2.2 Alternate members. The chief appointing authority shall appoint two alternate members who shall be called by the board chairman to hear appeals during the absence or disqualification of a member. Alternate members shall possess the qualifications required for board membership, and shall be appointed for 5 years or until a successor has been appointed.

[A] 109.2.3 Chairman. The board shall annually select one of its members to serve as chairman.

[A] 109.2.4 Disqualification of member. A member shall not hear an appeal in which that member has any personal, professional or financial interest.

[A] 109.2.5 Secretary. The chief administrative officer shall designate a qualified clerk to serve as secretary to the board. The secretary shall file a detailed record of all proceedings in the office of the chief administrative officer.

[A] 109.2.6 Compensation of members. Compensation of members shall be determined by law.

[A] 109.3 Notice of meeting. The board shall meet upon notice from the chairman, within 10 days of the filing of an appeal or at stated periodic meetings.

[A] 109.4 Open hearing. Hearings before the board shall be open to the public. The appellant, the appellant's representative, the code official and any person whose interests are affected shall be given an opportunity to be heard.

[A] 109.4.1 Procedure. The board shall adopt and make available to the public through the secretary procedures under which a hearing will be conducted. The procedures shall not require compliance with strict rules of evidence, but shall mandate that only relevant information be received.

[A] 109.5 Postponed hearing. When five members are not present to hear an appeal, either the appellant or the appellant's representative shall have the right to request a postponement of the hearing.

[A] 109.6 Board decision. The board shall modify or reverse the decision of the code official by a concurring vote of three members.

[A] 109.6.1 Resolution. The decision of the board shall be by resolution. Certified copies shall be furnished to the appellant and to the code official.

[A] 109.6.2 Administration. The code official shall take immediate action in accordance with the decision of the board.

[A] 109.7 Court review. Any person, whether or not a previous party of the appeal, shall have the right to apply to the appropriate court for a writ of certiorari to correct errors of law. Application for review shall be made in the manner and time required by law following the filing of the decision in the office of the chief administrative officer.

SECTION 110 TEMPORARY EQUIPMENT, SYSTEMS AND USES

[A] 110.1 General. The code official is authorized to issue a permit for temporary equipment, systems and uses. Such permits shall be limited as to time of service, but shall not be permitted for more than 180 days. The code official is authorized to grant extensions for demonstrated cause.

[A] 110.2 Conformance. Temporary equipment, systems and uses shall conform to the structural strength, fire safety, means of egress, accessibility, light, ventilation and sanitary requirements of this code as necessary to ensure the public health, safety and general welfare.

[A] 110.3 Temporary utilities. The code official is authorized to give permission to temporarily supply utilities before an installation has been fully completed and the final certificate of completion has been issued. The part covered by the temporary certificate shall comply with the requirements specified for temporary lighting, heat or power in the code.

[A] 110.4 Termination of approval. The code official is authorized to terminate such permit for temporary equipment, systems or uses and to order the temporary equipment, systems or uses to be discontinued.

403.1.1 Fixture calculations. To determine the occupant load of each sex, the total occupant load shall be divided in half. To determine the required number of fixtures, the fixture ratio or ratios for each fixture type shall be applied to the occupant load of each sex in accordance with Table 403.1. Fractional numbers resulting from applying the fixture ratios of Table 403.1 shall be rounded up to the next whole number. For calculations involving multiple *occupancies*, such fractional numbers for each *occupancy* shall first be summed and then rounded up to the next whole number.

Exception: The total occupant load shall not be required to be divided in half where *approved* statistical data indicates a distribution of the sexes of other than 50 percent of each sex.

403.1.2 Single-user toilet facility and bathing room fixtures. The plumbing fixtures located in single-user toilet facilities and bathing rooms, including family or assisted-use toilet and bathing rooms that are required by Section 1109.2.1 of the *International Building Code*, shall contribute toward the total number of required plumbing fixtures for a building or tenant space. Single-user toilet facilities and bathing rooms, and family or assisted-use toilet rooms and bathing rooms shall be identified for use by either sex.

403.1.3 Lavatory distribution. Where two or more toilet rooms are provided for each sex, the required number of lavatories shall be distributed proportionately to the required number of water closets.

403.2 Separate facilities. Where plumbing fixtures are required, separate facilities shall be provided for each sex.

Exceptions:

1. Separate facilities shall not be required for dwelling units and sleeping units.
2. Separate facilities shall not be required in structures or tenant spaces with a total occupant load, including both employees and customers, of 15 or fewer.
3. Separate facilities shall not be required in mercantile *occupancies* in which the maximum occupant load is 100 or fewer.
4. Separate facilities shall not be required in business *occupancies* in which the maximum occupant load is 25 or fewer.

403.2.1 Family or assisted-use toilet facilities serving as separate facilities. Where a building or tenant space requires a separate toilet facility for each sex and each toilet facility is required to have only one water closet, two family or assisted-use toilet facilities shall be permitted to serve as the required separate facilities. Family or assisted-use toilet facilities shall not be required to be identified for exclusive use by either sex as required by Section 403.4.

403.3 Employee and public toilet facilities. For structures and tenant spaces intended for *public* utilization, customers, patrons and visitors shall be provided with *public* toilet facilities. Employees associated with structures and tenant spaces shall be provided with toilet facilities. The number of plumbing fixtures located within the required toilet facilities shall be provided in accordance with Section 403 for all users.

Employee toilet facilities shall be either separate or combined employee and *public* toilet facilities.

Exception: *Public* toilet facilities shall not be required for:

1. Parking garages operated without parking attendants.
2. Structures and tenant spaces intended for quick transactions, including takeout, pickup and drop-off, having a public access area less than or equal to 300 square feet (28 m²).

403.3.1 Access. The route to the *public* toilet facilities required by Section 403.3 shall not pass through kitchens, storage rooms or closets. Access to the required facilities shall be from within the building or from the exterior of the building. Routes shall comply with the accessibility requirements of the *International Building Code*. The public shall have access to the required toilet facilities at all times that the building is occupied.

403.3.2 Prohibited toilet room location. Toilet rooms shall not open directly into a room used for the preparation of food for service to the public.

403.3.3 Location of toilet facilities in occupancies other than malls. In occupancies other than covered and open mall buildings, the required *public* and employee toilet facilities shall be located not more than one story above or below the space required to be provided with toilet facilities, and the path of travel to such facilities shall not exceed a distance of 500 feet (152 m).

Exception: The location and maximum distances of travel to required employee facilities in factory and industrial *occupancies* are permitted to exceed that required by this section, provided that the location and maximum distance of travel are *approved*.

403.3.4 Location of toilet facilities in malls. In covered and open mall buildings, the required *public* and employee toilet facilities shall be located not more than one story above or below the space required to be provided with toilet facilities, and the path of travel to such facilities shall not exceed a distance of 300 feet (91 m). In mall buildings, the required facilities shall be based on total square footage within a covered mall building or within the perimeter line of an open mall building, and facilities shall be installed in each individual store or in a central toilet area located in accordance with this section. The maximum distance of travel to central toilet facilities in mall buildings shall be measured from the main entrance of any store or tenant space. In mall buildings, where employees' toilet facilities are not provided in the individual store, the maximum distance of travel shall be measured from the employees' work area of the store or tenant space.

403.3.5 Pay facilities. Where pay facilities are installed, such facilities shall be in excess of the required minimum facilities. Required facilities shall be free of charge.

403.3.6 Door locking. Where a toilet room is provided for the use of multiple occupants, the egress door for the room shall not be lockable from the inside of the room. This section does not apply to family or assisted-use toilet rooms.

SECTION 714 BACKWATER VALVES

714.1 Sewage backflow. Where plumbing fixtures are installed on a floor with a finished floor elevation below the elevation of the manhole cover of the next upstream manhole in the public sewer, such fixtures shall be protected by a backwater valve installed in the *building drain*, or horizontal *branch* serving such fixtures. Plumbing fixtures installed on a floor with a finished floor elevation above the elevation of the manhole cover of the next upstream manhole in the public sewer shall not discharge through a backwater valve.

Exception: In existing buildings, fixtures above the elevation of the manhole cover of the next upstream manhole in the public sewer shall not be prohibited from discharging through a backwater valve.

714.2 Material. Backwater valves shall comply with ASME A112.14.1, CSA B181.1 or CSA B181.2.

714.3 Location. Backwater valves shall be installed so that access is provided to the working parts.

SECTION 715 VACUUM DRAINAGE SYSTEMS

715.1 Scope. Vacuum drainage systems shall be in accordance with Sections 715.2 through 715.4.

715.2 System design. Vacuum drainage systems shall be designed in accordance with the vacuum drainage system manufacturer's instructions. The system layout, including piping layout, tank assemblies, vacuum pump assembly and other components necessary for proper function of the system shall be in accordance with the manufacturer's instructions. Plans, specifications and other data for such systems shall be submitted to the code official for review and approval prior to installation.

715.2.1 Fixtures. Gravity-type fixtures installed in vacuum drainage systems shall comply with Chapter 4.

715.2.2 Drainage fixture units. *Drainage fixture units* for gravity drainage systems that discharge into, or receive discharge from, vacuum drainage systems shall be based on the values in this chapter.

715.2.3 Water supply fixture units. Water supply fixture units shall be based on the values in Chapter 6 of this code, except that the water supply fixture unit for a vacuum-type water closet shall be 1.

715.2.4 Traps and cleanouts. Gravity drainage fixtures shall be provided with traps and cleanouts in accordance with this chapter and Chapter 10.

715.2.5 Materials. Vacuum drainage pipe, fitting and valve materials shall be in accordance with the vacuum drainage system manufacturer's instructions and the requirements of this chapter.

715.3 Testing and demonstrations. After completion of the entire system installation, the system shall be subjected to a vacuum test of 19 inches (483 mm) of mercury and shall be operated to function as required by the code official and the manufacturer of the vacuum drainage system. Recorded proof of all tests shall be submitted to the code official.

715.4 Written instructions. Written instructions for the operation, maintenance, safety and emergency procedures shall be provided to the building owner. The code official shall verify that the building owner is in receipt of such instructions.

SECTION 716 REPLACEMENT OF UNDERGROUND BUILDING SEWERS AND BUILDING DRAINS BY PIPE-BURSTING METHODS

716.1 General. This section shall govern the replacement of existing *building sewer* and *building drain* piping by pipe-bursting methods.

716.2 Applicability. The replacement of *building sewer* and *building drain* piping by pipe-bursting methods shall be limited to gravity drainage piping of sizes 6 inches (152 mm) and smaller. The replacement piping shall be of the same nominal size as the existing piping.

716.3 Pre-installation inspection. The existing piping sections to be replaced shall be inspected internally by a recorded video camera survey. The survey shall include notations of the position of cleanouts and the depth of connections to the existing piping.

716.4 Pipe. The replacement pipe shall be made of high-density polyethylene (HDPE) and shall have a standard dimension ratio (SDR) of 17. The pipe shall be in compliance with ASTM F714.

716.5 Pipe fittings. Pipe fittings to be connected to the replacement pipe shall be made of high-density polyethylene (HDPE) and shall be in compliance with ASTM D2683.

716.6 Cleanouts. Where the existing *building sewer* or *building drain* did not have cleanouts meeting the requirements of this code, cleanout fittings shall be installed as required by this code.

716.7 Post-installation inspection. The completed replacement piping section shall be inspected internally by a recorded video camera survey. The video survey shall be reviewed and *approved* by the code official prior to pressure testing of the replacement piping system.

716.8 Pressure testing. The replacement piping system as well as the connections to the replacement piping shall be tested in accordance with Section 312.

NONPOTABLE WATER SYSTEMS

Collection and vent piping materials shall comply with Section 702.

1302.4.1 Installation. Collection piping conveying untreated water for reuse shall be installed in accordance with Section 704.

1302.4.2 Joints. Collection piping conveying untreated water for reuse shall utilize joints *approved* for use with the distribution piping and appropriate for the intended applications as specified in Section 705.

1302.4.3 Size. Collection piping conveying untreated water for reuse shall be sized in accordance with drainage sizing requirements specified in Section 710.

1302.4.4 Labeling and marking. Additional marking of collection piping conveying untreated water for reuse shall not be required beyond that required for sanitary drainage, waste and vent piping by Chapter 7.

1302.5 Filtration. Untreated water collected for reuse shall be filtered as required for the intended end use. Filters shall be provided with *access* for inspection and maintenance. Filters shall utilize a pressure gauge or other *approved* method to provide indication when a filter requires servicing or replacement. Filters shall be installed with shutoff valves immediately upstream and downstream to allow for isolation during maintenance.

1302.6 Disinfection and treatment. Where the intended application for nonpotable water collected on site for reuse requires disinfection or other treatment or both, it shall be disinfected as needed to ensure that the required water quality is delivered at the point of use. Nonpotable water collected on site containing untreated gray water shall be retained in collection reservoirs for not longer than 24 hours.

1302.6.1 Gray water used for fixture flushing. Gray water used for flushing water closets and urinals shall be disinfected and treated by an on-site water reuse treatment system complying with NSF 350.

1302.7 Storage tanks. Storage tanks utilized in on-site nonpotable water reuse systems shall comply with Sections 1301.9, 1302.7.1 and 1302.7.2.

1302.7.1 Location. Storage tanks shall be located with a minimum horizontal distance between various elements as indicated in Table 1302.7.1.

1302.7.2 Outlets. Outlets shall be located not less than 4 inches (102 mm) above the bottom of the storage tank and shall not skim water from the surface.

1302.8 Valves. Valves shall be supplied on on-site nonpotable water reuse systems in accordance with Sections 1302.8.1 and 1302.8.2.

1302.8.1 Bypass valve. One three-way diverter valve listed and labeled to NSF 50 or other *approved* device shall be installed on collection piping upstream of each storage tank, or drainfield, as applicable, to divert untreated on-site reuse sources to the sanitary *sewer* to allow servicing and inspection of the system. Bypass valves shall be installed downstream of fixture traps and vent connections. Bypass valves shall be marked to indicate the direction of flow, connection and storage tank or drainfield connection. Bypass valves shall be provided with *access* that allows for removal. Two shutoff valves shall not be installed to serve as a bypass valve.

1302.8.2 Backwater valve. One or more backwater valves shall be installed on each overflow and tank drain pipe. Backwater valves shall be in accordance with Section 714.

1302.9 Pumping and control system. Mechanical equipment including pumps, valves and filters shall be easily accessible and removable in order to perform repair, maintenance and cleaning. The minimum flow rate and flow pressure delivered by the pumping system shall be appropriate for the application and in accordance with Section 604.

1302.10 Water pressure-reducing valve or regulator. Where the water pressure supplied by the pumping system exceeds 80 psi (552 kPa) static, a pressure-reducing valve shall be installed to reduce the pressure in the nonpotable water distribution system piping to 80 psi (552 kPa) static or less. Pressure-reducing valves shall be specified and installed in accordance with Section 604.8.

1302.11 Distribution pipe. Distribution piping utilized in on-site nonpotable water reuse systems shall comply with Sections 1302.11.1 through 1302.11.3.

Exception: Irrigation piping located outside of the building and downstream of a backflow preventer.

1302.11.1 Materials, joints and connections. Distribution piping shall conform to the standards and requirements specified in Section 605.

TABLE 1302.7.1
LOCATION OF NONPOTABLE WATER REUSE STORAGE TANKS

| ELEMENT | MINIMUM HORIZONTAL DISTANCE FROM STORAGE TANK (feet) |
|---|--|
| Critical root zone (CRZ) of protected trees | 2 |
| Lot line adjoining private lots | 5 |
| Seepage pits | 5 |
| Septic tanks | 5 |
| Water wells | 50 |
| Streams and lakes | 50 |
| Water service | 5 |
| Public water main | 10 |

For SI: 1 foot = 304.8 mm.

NFPA 70[®]



National Electrical Code[®]

International Electrical Code[®] Series

2017



(B) Installation and Use. Listed or labeled equipment shall be installed and used in accordance with any instructions included in the listing or labeling.

N (C) Listing. Product testing, evaluation, and listing (product certification) shall be performed by recognized qualified electrical testing laboratories and shall be in accordance with applicable product standards recognized as achieving equivalent and effective safety for equipment installed to comply with this Code.

Informational Note: The Occupational Safety and Health Administration (OSHA) recognizes qualified electrical testing laboratories that perform evaluations, testing, and certification of certain products to ensure that they meet the requirements of both the construction and general industry OSHA electrical standards. If the listing (product certification) is done under a qualified electrical testing laboratory program, this listing mark signifies that the tested and certified product complies with the requirements of one or more appropriate product safety test standards.

110.4 Voltages. Throughout this Code, the voltage considered shall be that at which the circuit operates. The voltage rating of electrical equipment shall not be less than the nominal voltage of a circuit to which it is connected.

* **110.5 Conductors.** Conductors normally used to carry current shall be of copper or aluminum unless otherwise provided in this Code. Where the conductor material is not specified, the sizes given in this Code shall apply to copper conductors. Where other materials are used, the size shall be changed accordingly.

Informational Note: For copper-clad aluminum conductors, see 310.15.

110.6 Conductor Sizes. Conductor sizes are expressed in American Wire Gage (AWG) or in circular mils.

110.7 Wiring Integrity. Completed wiring installations shall be free from short circuits, ground faults, or any connections to ground other than as required or permitted elsewhere in this Code.

110.8 Wiring Methods. Only wiring methods recognized as suitable are included in this Code. The recognized methods of wiring shall be permitted to be installed in any type of building or occupancy, except as otherwise provided in this Code.

110.9 Interrupting Rating. Equipment intended to interrupt current at fault levels shall have an interrupting rating at nominal circuit voltage at least equal to the current that is available at the line terminals of the equipment.

Equipment intended to interrupt current at other than fault levels shall have an interrupting rating at nominal circuit voltage at least equal to the current that must be interrupted.

110.10 Circuit Impedance, Short-Circuit Current Ratings, and Other Characteristics. The overcurrent protective devices, the total impedance, the equipment short-circuit current ratings, and other characteristics of the circuit to be protected shall be selected and coordinated to permit the circuit protective devices used to clear a fault to do so without extensive damage to the electrical equipment of the circuit. This fault shall be assumed to be either between two or more of the circuit conductors or between any circuit conductor and the equipment grounding conductor(s) permitted in 250.118. Listed equipment applied in accordance with their listing shall be considered to meet the requirements of this section.

110.11 Deteriorating Agents. Unless identified for use in the operating environment, no conductors or equipment shall be located in damp or wet locations; where exposed to gases, fumes, vapors, liquids, or other agents that have a deteriorating effect on the conductors or equipment; or where exposed to excessive temperatures.

Informational Note No. 1: See 300.6 for protection against corrosion.

Informational Note No. 2: Some cleaning and lubricating compounds can cause severe deterioration of many plastic materials used for insulating and structural applications in equipment.

Equipment not identified for outdoor use and equipment identified only for indoor use, such as "dry locations," "indoor use only," "damp locations," or enclosure Types 1, 2, 5, 12, 12K, and/or 13, shall be protected against damage from the weather during construction.

Informational Note No. 3: See Table 110.28 for appropriate enclosure-type designations.

Informational Note No. 4: Minimum flood provisions are provided in NFPA 5000-2015 *Building Construction and Safety Code*, the *International Building Code (IBC)*, and the *International Residential Code for One- and Two-Family Dwellings (IRC)*.

110.12 Mechanical Execution of Work. Electrical equipment shall be installed in a neat and workmanlike manner.

Informational Note: Accepted industry practices are described in ANSI/NECA 1-2015, *Standard for Good Workmanship in Electrical Construction*, and other ANSI-approved installation standards.

(A) Unused Openings. Unused openings, other than those intended for the operation of equipment, those intended for mounting purposes, or those permitted as part of the design for listed equipment, shall be closed to afford protection substantially equivalent to the wall of the equipment. Where metallic plugs or plates are used with nonmetallic enclosures, they shall be recessed at least 6 mm (1/4 in.) from the outer surface of the enclosure.

(B) Integrity of Electrical Equipment and Connections. Internal parts of electrical equipment, including busbars, wiring terminals, insulators, and other surfaces, shall not be damaged or contaminated by foreign materials such as paint, plaster, cleaners, abrasives, or corrosive residues. There shall be no damaged parts that may adversely affect safe operation or mechanical strength of the equipment such as parts that are broken; bent; cut; or deteriorated by corrosion, chemical action, or overheating.

110.13 Mounting and Cooling of Equipment.

(A) Mounting. Electrical equipment shall be firmly secured to the surface on which it is mounted. Wooden plugs driven into holes in masonry, concrete, plaster, or similar materials shall not be used.

(B) Cooling. Electrical equipment that depends on the natural circulation of air and convection principles for cooling of exposed surfaces shall be installed so that room airflow over such surfaces is not prevented by walls or by adjacent installed equipment. For equipment designed for floor mounting, clearance between top surfaces and adjacent surfaces shall be provided to dissipate rising warm air.

Table 310.104(E) Thickness of Insulation for Shielded Solid Dielectric Insulated Conductors Rated 2001 to 35,000 Volts

| Conductor Size (AWG or kcmil) | 2001-5000 Volts | | 5001-8000 Volts | | | | 8001-15,000 Volts | | | | 15,001-25,000 Volts | | | | | | | | | |
|-------------------------------|---|------|---|------|---|------|---|------|---|------|---|------|---|------|---|------|---|------|---|------|
| | 100 Percent Insulation Level ¹ | | 100 Percent Insulation Level ¹ | | 133 Percent Insulation Level ² | | 173 Percent Insulation Level ³ | | 100 Percent Insulation Level ¹ | | 133 Percent Insulation Level ² | | 173 Percent Insulation Level ³ | | 100 Percent Insulation Level ¹ | | 133 Percent Insulation Level ² | | 173 Percent Insulation Level ³ | |
| | mm | mils |
| 8 | 2.29 | 90 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 6-4 | 2.29 | 90 | 2.92 | 115 | 3.56 | 140 | 4.45 | 175 | — | — | — | — | — | — | — | — | — | — | — | — |
| 2 | 2.29 | 90 | 2.92 | 115 | 3.56 | 140 | 4.45 | 175 | 4.45 | 175 | 5.59 | 220 | 6.60 | 260 | — | — | — | — | — | — |
| 1 | 2.29 | 90 | 2.92 | 115 | 3.56 | 140 | 4.45 | 175 | 4.45 | 175 | 5.59 | 220 | 6.60 | 260 | 6.60 | 260 | 8.13 | 320 | 10.67 | 420 |
| 1/0-2000 | 2.29 | 90 | 2.92 | 115 | 3.56 | 140 | 4.45 | 175 | 4.45 | 175 | 5.59 | 220 | 6.60 | 260 | 6.60 | 260 | 8.13 | 320 | 10.67 | 420 |

| Conductor Size (AWG or kcmil) | 25,001-28,000 Volts | | | | 28,001-35,000 Volts | | | | | | | |
|-------------------------------|---|------|---|------|---|------|---|------|---|------|---|------|
| | 100 Percent Insulation Level ¹ | | 133 Percent Insulation Level ² | | 173 Percent Insulation Level ³ | | 100 Percent Insulation Level ¹ | | 133 Percent Insulation Level ² | | 173 Percent Insulation Level ³ | |
| | mm | mils |
| 1 | 7.11 | 280 | 8.76 | 345 | 11.30 | 445 | — | — | — | — | — | — |
| 1/0-2000 | 7.11 | 280 | 8.76 | 345 | 11.30 | 445 | 8.76 | 345 | 10.67 | 420 | 14.73 | 580 |

¹ 100 Percent Insulation Level. Cables in this category shall be permitted to be applied where the system is provided with relay protection such that ground faults will be cleared as rapidly as possible but, in any case, within 1 minute. While these cables are applicable to the great majority of cable installations that are on grounded systems, they shall be permitted to be used also on other systems for which the application of cables is acceptable, provided the above clearing requirements are met in completely de-energizing the faulted section.

² 133 Percent Insulation Level. This insulation level corresponds to that formerly designated for ungrounded systems. Cables in this category shall be permitted to be applied in situations where the clearing time requirements of the 100 percent level category cannot be met and yet there is adequate assurance that the faulted section will be de-energized in a time not exceeding 1 hour. Also, they shall be permitted to be used in 100 percent insulation level applications where additional insulation is desirable.

³ 173 Percent Insulation Level. Cables in this category shall be permitted to be applied under all of the following conditions:
 (1) In industrial establishments where the conditions of maintenance and supervision ensure that only qualified persons service the installation
 (2) Where the fault clearing time requirements of the 133 percent level category cannot be met
 (3) Where an orderly shutdown is essential to protect equipment and personnel
 (4) There is adequate assurance that the faulted section will be de-energized in an orderly shutdown
 Also, cables with this insulation thickness shall be permitted to be used in 100 or 133 percent insulation level applications where additional insulation strength is desirable.

310.106 Conductors.

(A) **Minimum Size of Conductors.** The minimum size of conductors shall be as shown in Table 310.106(A), except as permitted elsewhere in this Code.

Table 310.106(A) Minimum Size of Conductors

| Conductor Voltage Rating (Volts) | Minimum Conductor Size (AWG) | |
|----------------------------------|------------------------------|----------------------------------|
| | Copper | Aluminum or Copper-Clad Aluminum |
| 0-2000 | 14 | 12 |
| 2001-5000 | 8 | 8 |
| 5001-8000 | 6 | 6 |
| 8001-15,000 | 2 | 2 |
| 15,001-28,000 | 1 | 1 |
| 28,001-35,000 | 1/0 | 1/0 |

(B) **Conductor Material.** Conductors in this article shall be of aluminum, copper-clad aluminum, or copper unless otherwise specified.

Solid aluminum conductors 8, 10, and 12 AWG shall be made of an AA-8000 series electrical grade aluminum alloy conductor material. Stranded aluminum conductors 8 AWG through 1000 kcmil marked as Type RHH, RHW, XHHW,

THW, THHW, THWN, THHN, service-entrance Type SE Style U, and SE Style R shall be made of an AA-8000 series electrical grade aluminum alloy conductor material.

(C) **Stranded Conductors.** Where installed in raceways, conductors 8 AWG and larger, not specifically permitted or required elsewhere in this Code to be solid, shall be stranded.

(D) **Insulated.** Conductors, not specifically permitted elsewhere in this Code to be covered or bare, shall be insulated.

Informational Note: See 250.184 for insulation of neutral conductors of a solidly grounded high-voltage system.

310.110 Conductor Identification.

(A) **Grounded Conductors.** Insulated or covered grounded conductors shall be identified in accordance with 200.6.

(B) **Equipment Grounding Conductors.** Equipment grounding conductors shall be in accordance with 250.119.

(C) **Ungrounded Conductors.** Conductors that are intended for use as ungrounded conductors, whether used as a single conductor or in multiconductor cables, shall be finished to be clearly distinguishable from grounded and grounding conductors. Distinguishing markings shall not conflict in any manner with the surface markings required by 310.120(B)(1). Branch-circuit ungrounded conductors shall be identified in accord-

ARTICLE 334**Nonmetallic-Sheathed Cable: Types NM, NMC, and NMS****Part I. General**

334.1 Scope. This article covers the use, installation, and construction specifications of nonmetallic-sheathed cable.

334.2 Definitions.

Nonmetallic-Sheathed Cable. A factory assembly of two or more insulated conductors enclosed within an overall nonmetallic jacket.

Type NM. Insulated conductors enclosed within an overall nonmetallic jacket.

Type NMC. Insulated conductors enclosed within an overall, corrosion resistant, nonmetallic jacket.

Type NMS. Insulated power or control conductors with signaling, data, and communications conductors within an overall nonmetallic jacket.

334.6 Listing Requirements. Type NM, Type NMC, and Type NMS cables and associated fittings shall be listed.

Part II. Installation

334.10 Uses Permitted. Type NM, Type NMC, and Type NMS cables shall be permitted to be used in the following, except as prohibited in 334.12:

- (1) One- and two-family dwellings and their attached or detached garages, and their storage buildings.
- (2) Multi-family dwellings permitted to be of Types III, IV, and V construction.
- (3) Other structures permitted to be of Types III, IV, and V construction. Cables shall be concealed within walls, floors, or ceilings that provide a thermal barrier of material that has at least a 15-minute finish rating as identified in listings of fire-rated assemblies.

Informational Note No. 1: Types of building construction and occupancy classifications are defined in NFPA 220-2015, *Standard on Types of Building Construction*, or the applicable building code, or both.

Informational Note No. 2: See Informative Annex E for determination of building types [NFPA 220, Table 3-1].

- (4) Cable trays in structures permitted to be Types III, IV, or V where the cables are identified for the use.

Informational Note: See 310.15(A)(3) for temperature limitation of conductors.

- (5) Types I and II construction where installed within raceways permitted to be installed in Types I and II construction.

(A) Type NM. Type NM cable shall be permitted as follows:

- (1) For both exposed and concealed work in normally dry locations except as prohibited in 334.10(3)
- (2) To be installed or fished in air voids in masonry block or tile walls

(B) Type NMC. Type NMC cable shall be permitted as follows:

- (1) For both exposed and concealed work in dry, moist, damp, or corrosive locations, except as prohibited by 334.10(3)
- (2) In outside and inside walls of masonry block or tile
- (3) In a shallow chase in masonry, concrete, or adobe protected against nails or screws by a steel plate at least 1.59 mm ($\frac{1}{16}$ in.) thick and covered with plaster, adobe, or similar finish

(C) Type NMS. Type NMS cable shall be permitted as follows:

- (1) For both exposed and concealed work in normally dry locations except as prohibited by 334.10(3)
- (2) To be installed or fished in air voids in masonry block or tile walls

334.12 Uses Not Permitted.

(A) Types NM, NMC, and NMS. Types NM, NMC, and NMS cables shall not be permitted as follows:

- (1) In any dwelling or structure not specifically permitted in 334.10(1), (2), (3), and (5)
- (2) Exposed within a dropped or suspended ceiling cavity in other than one- and two-family and multifamily dwellings
- (3) As service-entrance cable
- (4) In commercial garages having hazardous (classified) locations as defined in 511.3
- (5) In theaters and similar locations, except where permitted in 518.4(B)
- (6) In motion picture studios
- (7) In storage battery rooms
- (8) In hoistways or on elevators or escalators
- (9) Embedded in poured cement, concrete, or aggregate
- (10) In hazardous (classified) locations, except where specifically permitted by other articles in this Code

(B) Types NM and NMS. Types NM and NMS cables shall not be used under the following conditions or in the following locations:

- (1) Where exposed to corrosive fumes or vapors
- (2) Where embedded in masonry, concrete, adobe, fill, or plaster
- (3) In a shallow chase in masonry, concrete, or adobe and covered with plaster, adobe, or similar finish
- (4) In wet or damp locations

334.15 Exposed Work. In exposed work, except as provided in 300.11(A), cable shall be installed as specified in 334.15(A) through (C).

(A) To Follow Surface. Cable shall closely follow the surface of the building finish or of running boards.

(B) Protection from Physical Damage. Cable shall be protected from physical damage where necessary by rigid metal conduit, intermediate metal conduit, electrical metallic tubing, Schedule 80 PVC conduit, Type RTRC marked with the suffix -XW, or other approved means. Where passing through a floor, the cable shall be enclosed in rigid metal conduit, intermediate metal conduit, electrical metallic tubing, Schedule 80 PVC conduit, Type RTRC marked with the suffix -XW, or other approved means extending at least 150 mm (6 in.) above the floor.

2 0 1 8

INTERNATIONAL CODES®

IMC®

A Member of the International Code Family®

INTERNATIONAL
MECHANICAL CODE®



SCOPE AND ADMINISTRATION

cial shall have access to such records at all times or such records shall be filed with the code official as designated.

[A] 106.2 Permits not required. Permits shall not be required for the following:

1. Portable heating appliances.
2. Portable ventilation appliances and *equipment*.
3. Portable cooling units.
4. Steam, hot water or chilled water piping within any heating or cooling *equipment* or appliances regulated by this code.
5. The replacement of any minor part that does not alter the approval of *equipment* or an *appliance* or make such *equipment* or *appliance* unsafe.
6. Portable evaporative coolers.
7. Self-contained refrigeration systems that contain 10 pounds (4.5 kg) or less of refrigerant, or that are actuated by motors of 1 horsepower (0.75 kW) or less.
8. Portable fuel cell appliances that are not connected to a fixed piping system and are not interconnected to a power grid.

Exemption from the permit requirements of this code shall not be deemed to grant authorization for work to be done in violation of the provisions of this code or other laws or ordinances of this jurisdiction.

[A] 106.3 Application for permit. Each application for a permit, with the required fee, shall be filed with the code official on a form furnished for that purpose and shall contain a general description of the proposed work and its location. The application shall be signed by the owner or the owner's authorized agent. The permit application shall indicate the proposed *occupancy* of all parts of the building and of that portion of the site or lot, if any, not covered by the building or structure and shall contain such other information required by the code official.

[A] 106.3.1 Construction documents. *Construction documents*, engineering calculations, diagrams and other data shall be submitted in two or more sets with each application for a permit. The code official shall require *construction documents*, computations and specifications to be prepared and designed by a *registered design professional* where required by state law. Where special conditions exist, the code official is authorized to require additional *construction documents* to be prepared by a *registered design professional*. *Construction documents* shall be drawn to scale and shall be of sufficient clarity to indicate the location, nature and extent of the work proposed and show in detail that the work conforms to the provisions of this code. *Construction documents* for buildings more than two stories in height shall indicate where penetrations will be made for mechanical systems, and the materials and methods for maintaining required structural safety, fire-resistance rating and fireblocking.

Exception: The code official shall have the authority to waive the submission of *construction documents*, calculations or other data if the nature of the work applied for is such that reviewing of *construction documents* is not necessary to determine compliance with this code.

[A] 106.3.2 Preliminary inspection. Before a permit is issued, the code official is authorized to inspect and evaluate the systems, *equipment*, buildings, devices, premises and spaces or areas to be used.

[A] 106.3.3 Time limitation of application. An application for a permit for any proposed work shall be deemed to have been abandoned 180 days after the date of filing, unless such application has been pursued in good faith or a permit has been issued; except that the code official shall have the authority to grant one or more extensions of time for additional periods not exceeding 180 days each. The extension shall be requested in writing and justifiable cause demonstrated.

[A] 106.4 Permit issuance. The application, *construction documents* and other data filed by an applicant for a permit shall be reviewed by the code official. If the code official finds that the proposed work conforms to the requirements of this code and all laws and ordinances applicable thereto, and that the fees specified in Section 106.5 have been paid, a permit shall be issued to the applicant.

[A] 106.4.1 Approved construction documents. When the code official issues the permit where *construction documents* are required, the *construction documents* shall be endorsed in writing and stamped "APPROVED." Such *approved construction documents* shall not be changed, modified or altered without authorization from the code official. Work shall be done in accordance with the *approved construction documents*.

The code official shall have the authority to issue a permit for the construction of part of a mechanical system before the *construction documents* for the entire system have been submitted or *approved*, provided that adequate information and detailed statements have been filed complying with all pertinent requirements of this code. The holder of such permit shall proceed at his or her own risk without assurance that the permit for the entire mechanical system will be granted.

[A] 106.4.2 Validity. The issuance of a permit or approval of *construction documents* shall not be construed to be a permit for, or an approval of, any violation of any of the provisions of this code or of other ordinances of the jurisdiction. A permit presuming to give authority to violate or cancel the provisions of this code shall be invalid.

The issuance of a permit based on *construction documents* and other data shall not prevent the code official from thereafter requiring the correction of errors in said *construction documents* and other data or from preventing building operations from being carried on thereunder where in violation of this code or of other ordinances of this jurisdiction.

* **[A] 106.4.3 Expiration.** Every permit issued by the code official under the provisions of this code shall expire by limitation and become null and void if the work authorized by such permit is not commenced within 180 days from the date of such permit, or if the work authorized by such permit is suspended or abandoned at any time after the work is commenced for a period of 180 days. Before such work recommences, a new permit shall be first obtained

* *Cont'd.* and the fee therefor shall be one-half the amount required for a new permit for such work, provided that changes have not been made and will not be made in the original *construction documents* for such work, and provided further that such suspension or abandonment has not exceeded one year.

* [A] 106.4.4 **Extensions.** A permittee holding an unexpired permit shall have the right to apply for an extension of the time within which the permittee will commence work under that permit where work is unable to be commenced within the time required by this section for good and satisfactory reasons. The code official shall extend the time for action by the permittee for a period not exceeding 180 days if there is reasonable cause. A permit shall not be extended more than once. The fee for an extension shall be one-half the amount required for a new permit for such work.

[A] 106.4.5 **Suspension or revocation of permit.** The code official shall have the authority to suspend or revoke a permit issued under the provisions of this code wherever the permit is issued in error or on the basis of incorrect, inaccurate or incomplete information, or in violation of any ordinance or regulation or any of the provisions of this code.

[A] 106.4.6 **Retention of construction documents.** One set of *approved construction documents* shall be retained by the code official for a period of not less than 180 days from date of completion of the permitted work, or as required by state or local laws. One set of *approved construction documents* shall be returned to the applicant, and said set shall be kept on the site of the building or job at all times during which the work authorized thereby is in progress.

[A] 106.4.7 **Previous approvals.** This code shall not require changes in the *construction documents*, construction or designated *occupancy* of a structure for which a lawful permit has been heretofore issued or otherwise lawfully authorized, and the construction of which has been pursued in good faith within 180 days after the effective date of this code and has not been abandoned.

[A] 106.4.8 **Posting of permit.** The permit or a copy shall be kept on the site of the work until the completion of the project.

[A] 106.5 **Fees.** A permit shall not be issued until the fees prescribed in Section 106.5.2 have been paid, nor shall an amendment to a permit be released until the additional fee, if any, due to an increase of the mechanical system, has been paid.

[A] 106.5.1 **Work commencing before permit issuance.** Any person who commences work on a mechanical system before obtaining the necessary permits shall be subject to 100 percent of the usual permit fee in addition to the required permit fees.

[A] 106.5.2 **Fee schedule.** The fees for mechanical work shall be as indicated in the following schedule.

[JURISDICTION TO INSERT
APPROPRIATE SCHEDULE]

* [A] 106.5.3 **Fee refunds.** The code official shall authorize the refunding of fees as follows.

1. The full amount of any fee paid hereunder that was erroneously paid or collected.
2. Not more than [SPECIFY PERCENTAGE] percent of the permit fee paid where work has not been done under a permit issued in accordance with this code.
3. Not more than [SPECIFY PERCENTAGE] percent of the plan review fee paid where an application for a permit for which a plan review fee has been paid is withdrawn or canceled before any plan review effort has been expended.

The code official shall not authorize the refunding of any fee paid, except upon written application filed by the original permittee not later than 180 days after the date of fee payment.

SECTION 107 INSPECTIONS AND TESTING

[A] 107.1 **General.** The code official is authorized to conduct such inspections as are deemed necessary to determine compliance with the provisions of this code. Construction or work for which a permit is required shall be subject to inspection by the code official, and such construction or work shall remain visible and able to be accessed for inspection purposes until *approved*. Approval as a result of an inspection shall not be construed to be an approval of a violation of the provisions of this code or of other ordinances of the jurisdiction. Inspections presuming to give authority to violate or cancel the provisions of this code or of other ordinances of the jurisdiction shall not be valid.

[A] 107.2 **Required inspections and testing.** The code official, upon notification from the permit holder or the permit holder's agent, shall make the following inspections and other such inspections as necessary, and shall either release that portion of the construction or shall notify the permit holder or the permit holder's agent of violations that must be corrected. The holder of the permit shall be responsible for the scheduling of such inspections.

1. Underground inspection shall be made after trenches or ditches are excavated and bedded, piping installed, and before backfill is put in place. Where excavated soil contains rocks, broken concrete, frozen chunks and other rubble that would damage or break the piping or cause corrosive action, clean backfill shall be on the job site.
2. Rough-in inspection shall be made after the roof, framing, fireblocking and bracing are in place and all ducting and other components to be concealed are complete, and prior to the installation of wall or ceiling membranes.
3. Final inspection shall be made upon completion of the mechanical system.

Exception: Ground-source heat pump loop systems tested in accordance with Section 1210.10 shall be permitted to be backfilled prior to inspection.

and the fee therefor shall be one-half the amount required for a new permit for such work, provided that changes have not been made and will not be made in the original *construction documents* for such work, and provided further that such suspension or abandonment has not exceeded one year.

[A] 106.4.4 Extensions. A permittee holding an unexpired permit shall have the right to apply for an extension of the time within which the permittee will commence work under that permit where work is unable to be commenced within the time required by this section for good and satisfactory reasons. The code official shall extend the time for action by the permittee for a period not exceeding 180 days if there is reasonable cause. A permit shall not be extended more than once. The fee for an extension shall be one-half the amount required for a new permit for such work.

[A] 106.4.5 Suspension or revocation of permit. The code official shall have the authority to suspend or revoke a permit issued under the provisions of this code wherever the permit is issued in error or on the basis of incorrect, inaccurate or incomplete information, or in violation of any ordinance or regulation or any of the provisions of this code.

[A] 106.4.6 Retention of construction documents. One set of *approved construction documents* shall be retained by the code official for a period of not less than 180 days from date of completion of the permitted work, or as required by state or local laws. One set of *approved construction documents* shall be returned to the applicant, and said set shall be kept on the site of the building or job at all times during which the work authorized thereby is in progress.

[A] 106.4.7 Previous approvals. This code shall not require changes in the *construction documents*, construction or designated *occupancy* of a structure for which a lawful permit has been heretofore issued or otherwise lawfully authorized, and the construction of which has been pursued in good faith within 180 days after the effective date of this code and has not been abandoned.

[A] 106.4.8 Posting of permit. The permit or a copy shall be kept on the site of the work until the completion of the project.

[A] 106.5 Fees. A permit shall not be issued until the fees prescribed in Section 106.5.2 have been paid, nor shall an amendment to a permit be released until the additional fee, if any, due to an increase of the mechanical system, has been paid.

[A] 106.5.1 Work commencing before permit issuance. Any person who commences work on a mechanical system before obtaining the necessary permits shall be subject to 100 percent of the usual permit fee in addition to the required permit fees.

[A] 106.5.2 Fee schedule. The fees for mechanical work shall be as indicated in the following schedule.

[JURISDICTION TO INSERT
APPROPRIATE SCHEDULE]

[A] 106.5.3 Fee refunds. The code official shall authorize the refunding of fees as follows.

1. The full amount of any fee paid hereunder that was erroneously paid or collected.
2. Not more than [SPECIFY PERCENTAGE] percent of the permit fee paid where work has not been done under a permit issued in accordance with this code.
3. Not more than [SPECIFY PERCENTAGE] percent of the plan review fee paid where an application for a permit for which a plan review fee has been paid is withdrawn or canceled before any plan review effort has been expended.

The code official shall not authorize the refunding of any fee paid, except upon written application filed by the original permittee not later than 180 days after the date of fee payment.

SECTION 107 INSPECTIONS AND TESTING

[A] 107.1 General. The code official is authorized to conduct such inspections as are deemed necessary to determine compliance with the provisions of this code. Construction or work for which a permit is required shall be subject to inspection by the code official, and such construction or work shall remain visible and able to be accessed for inspection purposes until *approved*. Approval as a result of an inspection shall not be construed to be an approval of a violation of the provisions of this code or of other ordinances of the jurisdiction. Inspections presuming to give authority to violate or cancel the provisions of this code or of other ordinances of the jurisdiction shall not be valid.

***[A] 107.2 Required inspections and testing.** The code official, upon notification from the permit holder or the permit holder's agent, shall make the following inspections and other such inspections as necessary, and shall either release that portion of the construction or shall notify the permit holder or the permit holder's agent of violations that must be corrected. The holder of the permit shall be responsible for the scheduling of such inspections.

1. Underground inspection shall be made after trenches or ditches are excavated and bedded, piping installed, and before backfill is put in place. Where excavated soil contains rocks, broken concrete, frozen chunks and other rubble that would damage or break the piping or cause corrosive action, clean backfill shall be on the job site.
2. Rough-in inspection shall be made after the roof, framing, fireblocking and bracing are in place and all ducting and other components to be concealed are complete, and prior to the installation of wall or ceiling membranes.
3. Final inspection shall be made upon completion of the mechanical system.

Exception: Ground-source heat pump loop systems tested in accordance with Section 1210.10 shall be permitted to be backfilled prior to inspection.

demolish or utilize a mechanical system, or cause same to be done, in conflict with or in violation of any of the provisions of this code.

[A] 108.2 Notice of violation. The code official shall serve a notice of violation or order to the person responsible for the erection, installation, *alteration*, extension, repair, removal or demolition of mechanical work in violation of the provisions of this code, or in violation of a detail statement or the *approved construction documents* thereunder, or in violation of a permit or certificate issued under the provisions of this code. Such order shall direct the discontinuance of the illegal action or condition and the abatement of the violation.

[A] 108.3 Prosecution of violation. If the notice of violation is not complied with promptly, the code official shall request the legal counsel of the jurisdiction to institute the appropriate proceeding at law or in equity to restrain, correct or abate such violation, or to require the removal or termination of the unlawful *occupancy* of the structure in violation of the provisions of this code or of the order or direction made pursuant thereto.

[A] 108.4 Violation penalties. Persons who shall violate a provision of this code or shall fail to comply with any of the requirements thereof or who shall erect, install, alter or repair mechanical work in violation of the *approved construction documents* or directive of the code official, or of a permit or certificate issued under the provisions of this code, shall be guilty of a [SPECIFY OFFENSE], punishable by a fine of not more than [AMOUNT] dollars or by imprisonment not exceeding [NUMBER OF DAYS], or both such fine and imprisonment. Each day that a violation continues after due notice has been served shall be deemed a separate offense.

[A] 108.5 Stop work orders. Upon notice from the code official that mechanical work is being performed contrary to the provisions of this code or in a dangerous or unsafe manner, such work shall immediately cease. Such notice shall be in writing and shall be given to the owner of the property, or to the owner's authorized agent, or to the person doing the work. The notice shall state the conditions under which work is authorized to resume. Where an emergency exists, the code official shall not be required to give a written notice prior to stopping the work. Any person who shall continue any work on the system after having been served with a stop work order, except such work as that person is directed to perform to remove a violation or unsafe condition, shall be liable for a fine of not less than [AMOUNT] dollars or more than [AMOUNT] dollars.

[A] 108.6 Abatement of violation. The imposition of the penalties herein prescribed shall not preclude the legal officer of the jurisdiction from instituting appropriate action to prevent unlawful construction or to restrain, correct or abate a violation, or to prevent illegal *occupancy* of a building, structure or premises, or to stop an illegal act, conduct, business or utilization of the mechanical system on or about any premises.

[A] 108.7 Unsafe mechanical systems. A mechanical system that is unsafe, constitutes a fire or health hazard, or is otherwise dangerous to human life, as regulated by this code, is hereby declared as an unsafe mechanical system. Use of a mechanical system regulated by this code constituting a haz-

ard to health, safety or welfare by reason of inadequate maintenance, dilapidation, fire hazard, disaster, damage or abandonment is hereby declared an unsafe use. Such unsafe *equipment* and appliances are hereby declared to be a public nuisance and shall be abated by repair, rehabilitation, demolition or removal.

[A] 108.7.1 Authority to condemn mechanical systems. Where the code official determines that any mechanical system, or portion thereof, regulated by this code has become hazardous to life, health, property, or has become insanitary, the code official shall order in writing that such system either be removed or restored to a safe condition. A time limit for compliance with such order shall be specified in the written notice. A person shall not use or maintain a defective mechanical system after receiving such notice.

Where such mechanical system is to be disconnected, written notice as prescribed in Section 108.2 shall be given. In cases of immediate danger to life or property, such disconnection shall be made immediately without such notice.

[A] 108.7.2 Authority to order disconnection of energy sources. The code official shall have the authority to order disconnection of energy sources supplied to a building, structure or mechanical system regulated by this code, where it is determined that the mechanical system or any portion thereof has become hazardous or unsafe. Written notice of such order to disconnect service and the causes therefor shall be given within 24 hours to the owner, the owner's authorized agent and occupant of such building, structure or premises, provided, however, that in cases of immediate danger to life or property, such disconnection shall be made immediately without such notice. Where energy sources are provided by a public utility, the code official shall immediately notify the serving utility in writing of the issuance of such order to disconnect.

[A] 108.7.3 Connection after order to disconnect. A person shall not make energy source connections to mechanical systems regulated by this code that have been disconnected or ordered to be disconnected by the code official, or the use of which has been ordered to be discontinued by the code official until the code official authorizes the reconnection and use of such mechanical systems.

Where a mechanical system is maintained in violation of this code, and in violation of a notice issued pursuant to the provisions of this section, the code official shall institute appropriate action to prevent, restrain, correct or abate the violation.

SECTION 109 MEANS OF APPEAL

[A] 109.1 Application for appeal. A person shall have the right to appeal a decision of the code official to the board of appeals. An application for appeal shall be based on a claim that the true intent of this code or the rules legally adopted thereunder have been incorrectly interpreted, the provisions of this code do not fully apply, or an equally good or better

SCOPE AND ADMINISTRATION

*
CONTD.
form of construction is proposed. The application shall be filed on a form obtained from the code official within 20 days after the notice was served.

[A] 109.1.1 **Limitation of authority.** The board of appeals shall not have authority relative to interpretation of the administration of this code nor shall such board be empowered to waive requirements of this code.

[A] 109.2 **Membership of board.** The board of appeals shall consist of five members appointed by the chief appointing authority as follows: one for 5 years; one for 4 years; one for 3 years; one for 2 years; and one for 1 year. Thereafter, each new member shall serve for 5 years or until a successor has been appointed.

[A] 109.2.1 **Qualifications.** The board of appeals shall consist of five individuals, one from each of the following professions or disciplines.

1. *Registered design professional* who is a registered architect; or a builder or superintendent of building construction with not less than 10 years' experience, 5 of which shall have been in responsible charge of work.
2. *Registered design professional* with structural engineering or architectural experience.
3. *Registered design professional* with mechanical and plumbing engineering experience; or a mechanical contractor with not less than 10 years' experience, 5 of which shall have been in responsible charge of work.
4. *Registered design professional* with electrical engineering experience; or an electrical contractor with not less than 10 years' experience, 5 of which shall have been in responsible charge of work.
5. *Registered design professional* with fire protection engineering experience; or a fire protection contractor with not less than 10 years' experience, 5 of which shall have been in responsible charge of work.

[A] 109.2.2 **Alternate members.** The chief appointing authority shall appoint two alternate members who shall be called by the board chairman to hear appeals during the absence or disqualification of a member. Alternate members shall possess the qualifications required for board membership and shall be appointed for 5 years, or until a successor has been appointed.

[A] 109.2.3 **Chairman.** The board shall annually select one of its members to serve as chairman.

[A] 109.2.4 **Disqualification of member.** A member shall not hear an appeal in which that member has a personal, professional or financial interest.

[A] 109.2.5 **Secretary.** The chief administrative officer shall designate a qualified clerk to serve as secretary to the board. The secretary shall file a detailed record of all proceedings in the office of the chief administrative officer.

[A] 109.2.6 **Compensation of members.** Compensation of members shall be determined by law.

[A] 109.3 **Notice of meeting.** The board shall meet upon notice from the chairman, within 10 days of the filing of an appeal, or at stated periodic meetings.

[A] 109.4 **Open hearing.** Hearings before the board shall be open to the public. The appellant, the appellant's representative, the code official and any person whose interests are affected shall be given an opportunity to be heard.

[A] 109.4.1 **Procedure.** The board shall adopt and make available to the public through the secretary procedures under which a hearing will be conducted. The procedures shall not require compliance with strict rules of evidence, but shall mandate that only relevant information be received.

[A] 109.5 **Postponed hearing.** When five members are not present to hear an appeal, either the appellant or the appellant's representative shall have the right to request a postponement of the hearing.

[A] 109.6 **Board decision.** The board shall modify or reverse the decision of the code official by a concurring vote of three members.

[A] 109.6.1 **Resolution.** The decision of the board shall be by resolution. Certified copies shall be furnished to the appellant and to the code official.

[A] 109.6.2 **Administration.** The code official shall take immediate action in accordance with the decision of the board.

[A] 109.7 **Court review.** Any person, whether or not a previous party of the appeal, shall have the right to apply to the appropriate court for a writ of certiorari to correct errors of law. Application for review shall be made in the manner and time required by law following the filing of the decision in the office of the chief administrative officer.

SECTION 110 TEMPORARY EQUIPMENT, SYSTEMS AND USES

[A] 110.1 **General.** The code official is authorized to issue a permit for temporary *equipment*, systems and uses. Such permits shall be limited as to time of service, but shall not be permitted for more than 180 days. The code official is authorized to grant extensions for demonstrated cause.

[A] 110.2 **Conformance.** Temporary *equipment*, systems and uses shall conform to the structural strength, fire safety, means of egress, accessibility, light, ventilation and sanitary requirements of this code as necessary to ensure the public health, safety and general welfare.

[A] 110.3 **Temporary utilities.** The code official is authorized to give permission to temporarily supply utilities before an installation has been fully completed and the final certificate of completion has been issued. The part covered by the temporary certificate shall comply with the requirements specified for temporary lighting, heat or power in the code.

[A] 110.4 **Termination of approval.** The code official is authorized to terminate such permit for temporary *equipment*, systems or uses and to order the temporary *equipment*, systems or uses to be discontinued.

6. Gasket and sealing materials shall be rated for not less than 1500°F (816°C).
7. Listed door assemblies shall be installed in accordance with the manufacturer's instructions.

506.3.8.1 Personnel entry. Where ductwork is large enough to allow entry of personnel, not less than one *approved* or *listed* opening having dimensions not less than 22 inches by 20 inches (559 mm by 508 mm) shall be provided in the horizontal sections, and in the top of vertical risers. Where such entry is provided, the duct and its supports shall be capable of supporting the additional load, and the cleanouts specified in Section 506.3.8 are not required.

506.3.8.2 Cleanouts serving in-line fans. A cleanout shall be provided for both the inlet side and outlet side of an in-line fan except where a duct does not connect to the fan. Such cleanouts shall be located within 3 feet (914 mm) of the fan duct connections.

506.3.9 Grease duct horizontal cleanouts. Cleanouts serving horizontal sections of grease ducts shall:

1. Be spaced not more than 20 feet (6096 mm) apart.
2. Be located not more than 10 feet (3048 mm) from changes in direction that are greater than 45 degrees (0.79 rad).
3. Be located on the bottom only where other locations are not available and shall be provided with internal damming of the opening such that grease will flow past the opening without pooling. Bottom cleanouts and openings shall be approved for the application and installed liquid-tight.
4. Not be closer than 1 inch (25 mm) from the edges of the duct.
5. Have opening dimensions of not less than 12 inches by 12 inches (305 mm by 305 mm). Where such dimensions preclude installation, the opening shall be not less than 12 inches (305 mm) on one side and shall be large enough to provide access for cleaning and maintenance.
6. Shall be located at grease reservoirs.

506.3.10 Underground grease duct installation. Underground grease duct installations shall comply with all of the following:

1. Underground grease ducts shall be constructed of steel having a minimum thickness of 0.0575 inch (1.463 mm) (No. 16 gage) and shall be coated to provide protection from corrosion or shall be constructed of stainless steel having a minimum thickness of 0.0450 inch (1.140 mm) (No. 18 gage).
2. The underground duct system shall be tested and approved in accordance with Section 506.3.2.5 prior to coating or placement in the ground.
3. The underground duct system shall be completely encased in concrete with a minimum thickness of 4 inches (102 mm).
4. Ducts shall slope toward grease reservoirs.

5. A grease reservoir with a cleanout to allow cleaning of the reservoir shall be provided at the base of each vertical duct riser.
6. Cleanouts shall be provided with access to permit cleaning and inspection of the duct in accordance with Section 506.3.
7. Cleanouts in horizontal ducts shall be installed on the topside of the duct.
8. Cleanout locations shall be legibly identified at the point of access from the interior space.

506.3.11 Grease duct enclosures. A commercial kitchen grease duct serving a Type I hood that penetrates a ceiling, wall, floor or any concealed space shall be enclosed from the point of penetration to the outlet terminal. In-line exhaust fans not located outdoors shall be enclosed as required for grease ducts. A duct shall penetrate exterior walls only at locations where unprotected openings are permitted by the *International Building Code*. The duct enclosure shall serve a single grease duct and shall not contain other ducts, piping or wiring systems. Duct enclosures shall be a shaft enclosure in accordance with Section 506.3.11.1, a field-applied enclosure assembly in accordance with Section 506.3.11.2 or a factory-built enclosure assembly in accordance with Section 506.3.11.3. Duct enclosures shall have a fire-resistance rating of not less than that of the assembly penetrated and not less than 1 hour. Fire dampers and smoke dampers shall not be installed in grease ducts.

✱ **Exception:** A duct enclosure shall not be required for a grease duct that penetrates only a nonfire-resistance-rated roof/ceiling assembly.

506.3.11.1 Shaft enclosure. Grease ducts constructed in accordance with Section 506.3.1 shall be permitted to be enclosed in accordance with the *International Building Code* requirements for shaft construction. Such grease duct systems and exhaust *equipment* shall have a *clearance* to combustible construction of not less than 18 inches (457 mm), and shall have a *clearance* to noncombustible construction and gypsum wall-board attached to noncombustible structures of not less than 6 inches (76 mm). Duct enclosures shall be sealed around the duct at the point of penetration and vented to the outside of the building through the use of weather-protected openings.

506.3.11.2 Field-applied grease duct enclosure. Grease ducts constructed in accordance with Section 506.3.1 shall be enclosed by a *listed* and *labeled* field-applied grease duct enclosure material, systems, product, or method of construction specifically evaluated for such purpose in accordance with ASTM E2336. The surface of the duct shall be continuously covered on all sides from the point at which the duct originates to the outlet terminal. Duct penetrations shall be protected with a through-penetration firestop system tested and *listed* in accordance with ASTM E814 or UL 1479 and having an "F" and "T" rating equal to the fire-resistance rating of the assembly being penetrated. The grease

2 | 0 | 1 | 8

INTERNATIONAL CODES

IFGC[®]

A Member of the International Code Family[®]

INTERNATIONAL
FUEL GAS CODE[®]



permit has been issued; except that the code official shall have the authority to grant one or more extensions of time for additional periods not exceeding 180 days each. The extension shall be requested in writing and justifiable cause shall be demonstrated.

[A] 106.4 Preliminary inspection. Before a permit is issued, the code official is authorized to inspect and evaluate the systems, *equipment*, buildings, devices, premises and spaces or areas to be used.

[A] 106.5 Permit issuance. The application, *construction documents* and other data filed by an applicant for a permit shall be reviewed by the code official. If the code official finds that the proposed work conforms to the requirements of this code and all laws and ordinances applicable thereto, and that the fees specified in Section 106.6 have been paid, a permit shall be issued to the applicant.

[A] 106.5.1 Approved construction documents. When the code official issues the permit where *construction documents* are required, the *construction documents* shall be endorsed in writing and stamped "APPROVED." Such *approved construction documents* shall not be changed, modified or altered without authorization from the code official. Work shall be done in accordance with the *approved construction documents*.

The code official shall have the authority to issue a permit for the construction of part of an installation before the *construction documents* for the entire installation have been submitted or *approved*, provided adequate information and detailed statements have been filed complying with all pertinent requirements of this code. The holder of such permit shall proceed at his or her own risk without assurance that the permit for the entire installation will be granted.

[A] 106.5.2 Validity. The issuance of a permit or approval of *construction documents* shall not be construed to be a permit for, or an approval of, any violation of any of the provisions of this code or of other ordinances of the jurisdiction. A permit presuming to give authority to violate or cancel the provisions of this code shall be invalid.

The issuance of a permit based on *construction documents* and other data shall not prevent the code official from thereafter requiring the correction of errors in said *construction documents* and other data or from preventing building operations from being carried on thereunder where in violation of this code or of other ordinances of this jurisdiction.

* **[A] 106.5.3 Expiration.** Every permit issued by the code official under the provisions of this code shall expire by limitation and become null and void if the work authorized by such permit is not commenced within 180 days from the date of such permit, or is suspended or abandoned at any time after the work is commenced for a period of 180 days. Before such work recommences, a new permit shall be first obtained and the fee therefor shall be one-half the amount required for a new permit for such work, provided that changes have not been and will not be made in the original *construction documents* for such work, and further that such suspension or abandonment has not exceeded one year.

[A] 106.5.4 Extensions. A permittee holding an unexpired permit shall have the right to apply for an extension of the time within which he or she will commence work under that permit when work is unable to be commenced within the time required by this section for good and satisfactory reasons. The code official shall extend the time for action by the permittee for a period not exceeding 180 days if there is reasonable cause. A permit shall not be extended more than once. The fee for an extension shall be one-half the amount required for a new permit for such work.

[A] 106.5.5 Suspension or revocation of permit. The code official shall have the authority to suspend or revoke a permit issued under the provisions of this code wherever the permit is issued in error or on the basis of incorrect, inaccurate or incomplete information, or in violation of any ordinance or regulation or any of the provisions of this code.

[A] 106.5.6 Retention of construction documents. One set of *approved construction documents* shall be retained by the code official for a period of not less than 180 days from date of completion of the permitted work, or as required by state or local laws. One set of *approved construction documents* shall be returned to the applicant, and said set shall be kept on the site of the building or work at all times during which the work authorized thereby is in progress.

[A] 106.5.7 Previous approvals. This code shall not require changes in the *construction documents*, construction or designated *occupancy* of a structure for which a lawful permit has been heretofore issued or otherwise lawfully authorized, and the construction of which has been pursued in good faith within 180 days after the effective date of this code and has not been abandoned.

[A] 106.5.8 Posting of permit. The permit or a copy shall be kept on the site of the work until the completion of the project.

[A] 106.6 Fees. A permit shall not be issued until the fees prescribed in Section 106.6.2 have been paid, nor shall an amendment to a permit be released until the additional fee, if any, due to an increase of the installation, has been paid.

[A] 106.6.1 Work commencing before permit issuance. Any person who commences work on an installation before obtaining the necessary permits shall be subject to 100 percent of the usual permit fee in addition to the required permit fees.

[A] 106.6.2 Fee schedule. The fees for work shall be as indicated in the following schedule.

[JURISDICTION TO INSERT APPROPRIATE SCHEDULE]

[A] 106.6.3 Fee refunds. The code official shall authorize the refunding of fees as follows.

1. The full amount of any fee paid hereunder that was erroneously paid or collected.
2. Not more than [SPECIFY PERCENTAGE] percent of the permit fee paid where work has not been done under a permit issued in accordance with this code.
3. Not more than [SPECIFY PERCENTAGE] percent of the plan review fee paid where an application for a permit for which a plan review fee has been paid is

permit has been issued; except that the code official shall have the authority to grant one or more extensions of time for additional periods not exceeding 180 days each. The extension shall be requested in writing and justifiable cause shall be demonstrated.

[A] 106.4 Preliminary inspection. Before a permit is issued, the code official is authorized to inspect and evaluate the systems, *equipment*, buildings, devices, premises and spaces or areas to be used.

[A] 106.5 Permit issuance. The application, *construction documents* and other data filed by an applicant for a permit shall be reviewed by the code official. If the code official finds that the proposed work conforms to the requirements of this code and all laws and ordinances applicable thereto, and that the fees specified in Section 106.6 have been paid, a permit shall be issued to the applicant.

[A] 106.5.1 Approved construction documents. When the code official issues the permit where *construction documents* are required, the *construction documents* shall be endorsed in writing and stamped "APPROVED." Such *approved construction documents* shall not be changed, modified or altered without authorization from the code official. Work shall be done in accordance with the *approved construction documents*.

The code official shall have the authority to issue a permit for the construction of part of an installation before the *construction documents* for the entire installation have been submitted or *approved*, provided adequate information and detailed statements have been filed complying with all pertinent requirements of this code. The holder of such permit shall proceed at his or her own risk without assurance that the permit for the entire installation will be granted.

[A] 106.5.2 Validity. The issuance of a permit or approval of *construction documents* shall not be construed to be a permit for, or an approval of, any violation of any of the provisions of this code or of other ordinances of the jurisdiction. A permit presuming to give authority to violate or cancel the provisions of this code shall be invalid.

The issuance of a permit based on *construction documents* and other data shall not prevent the code official from thereafter requiring the correction of errors in said *construction documents* and other data or from preventing building operations from being carried on thereunder where in violation of this code or of other ordinances of this jurisdiction.

* **[A] 106.5.3 Expiration.** Every permit issued by the code official under the provisions of this code shall expire by limitation and become null and void if the work authorized by such permit is not commenced within 180 days from the date of such permit, or is suspended or abandoned at any time after the work is commenced for a period of 180 days. Before such work recommences, a new permit shall be first obtained and the fee therefor shall be one-half the amount required for a new permit for such work, provided that changes have not been and will not be made in the original *construction documents* for such work, and further that such suspension or abandonment has not exceeded one year.

[A] 106.5.4 Extensions. A permittee holding an unexpired permit shall have the right to apply for an extension of the time within which he or she will commence work under that permit when work is unable to be commenced within the time required by this section for good and satisfactory reasons. The code official shall extend the time for action by the permittee for a period not exceeding 180 days if there is reasonable cause. A permit shall not be extended more than once. The fee for an extension shall be one-half the amount required for a new permit for such work.

[A] 106.5.5 Suspension or revocation of permit. The code official shall have the authority to suspend or revoke a permit issued under the provisions of this code wherever the permit is issued in error or on the basis of incorrect, inaccurate or incomplete information, or in violation of any ordinance or regulation or any of the provisions of this code.

[A] 106.5.6 Retention of construction documents. One set of *approved construction documents* shall be retained by the code official for a period of not less than 180 days from date of completion of the permitted work, or as required by state or local laws. One set of *approved construction documents* shall be returned to the applicant, and said set shall be kept on the site of the building or work at all times during which the work authorized thereby is in progress.

[A] 106.5.7 Previous approvals. This code shall not require changes in the *construction documents*, construction or designated *occupancy* of a structure for which a lawful permit has been heretofore issued or otherwise lawfully authorized, and the construction of which has been pursued in good faith within 180 days after the effective date of this code and has not been abandoned.

[A] 106.5.8 Posting of permit. The permit or a copy shall be kept on the site of the work until the completion of the project.

[A] 106.6 Fees. A permit shall not be issued until the fees prescribed in Section 106.6.2 have been paid, nor shall an amendment to a permit be released until the additional fee, if any, due to an increase of the installation, has been paid.

[A] 106.6.1 Work commencing before permit issuance. Any person who commences work on an installation before obtaining the necessary permits shall be subject to 100 percent of the usual permit fee in addition to the required permit fees.

* **[A] 106.6.2 Fee schedule.** The fees for work shall be as indicated in the following schedule.

[JURISDICTION TO INSERT APPROPRIATE SCHEDULE]

[A] 106.6.3 Fee refunds. The code official shall authorize the refunding of fees as follows.

1. The full amount of any fee paid hereunder that was erroneously paid or collected.
2. Not more than [SPECIFY PERCENTAGE] percent of the permit fee paid where work has not been done under a permit issued in accordance with this code.
3. Not more than [SPECIFY PERCENTAGE] percent of the plan review fee paid where an application for a permit for which a plan review fee has been paid is

[A] **107.3.1 New, altered, extended or repaired installations.** New installations and parts of existing installations, which have been altered, extended, renovated or repaired, shall be tested as prescribed herein to disclose leaks and defects.

[A] **107.3.2 Apparatus, instruments, material and labor for tests.** Apparatus, instruments, material and labor required for testing an installation or part thereof shall be furnished by the permit holder.

[A] **107.3.3 Reinspection and testing.** Where any work or installation does not pass an initial test or inspection, the necessary corrections shall be made so as to achieve compliance with this code. The work or installation shall then be resubmitted to the code official for inspection and testing.

[A] **107.4 Approval.** After the prescribed tests and inspections indicate that the work complies in all respects with this code, a notice of approval shall be issued by the code official.

[A] **107.4.1 Revocation.** The code official is authorized to, in writing, suspend or revoke a notice of approval issued under the provisions of this code wherever the notice is issued in error, or on the basis of incorrect information supplied or where it is determined that the building or structure, premise, or portion thereof is in violation of any ordinance or regulation or any of the provisions of this code.

[A] **107.5 Temporary connection.** The code official shall have the authority to allow the temporary connection of an installation to the sources of energy for the purpose of testing the installation or for use under a temporary certificate of *occupancy*.

[A] **107.6 Connection of service utilities.** A person shall not make connections from a utility, source of energy, fuel or power to any building or system that is regulated by this code for which a permit is required until authorized by the code official.

SECTION 108 (IFGC) VIOLATIONS

[A] **108.1 Unlawful acts.** It shall be unlawful for a person, firm or corporation to erect, construct, alter, repair, remove, demolish or utilize an installation, or cause same to be done, in conflict with or in violation of any of the provisions of this code.

[A] **108.2 Notice of violation.** The code official shall serve a notice of violation or order to the person responsible for the erection, installation, *alteration*, extension, repair, removal or demolition of work in violation of the provisions of this code, or in violation of a detail statement or the *approved construction documents* thereunder, or in violation of a permit or certificate issued under the provisions of this code. Such order shall direct the discontinuance of the illegal action or condition and the abatement of the violation.

[A] **108.3 Prosecution of violation.** If the notice of violation is not complied with promptly, the code official shall request the legal counsel of the jurisdiction to institute the appropriate proceeding at law or in equity to restrain, correct or abate

such violation, or to require the removal or termination of the unlawful *occupancy* of the structure in violation of the provisions of this code or of the order or direction made pursuant thereto.

[A] **108.4 Violation penalties.** Persons who shall violate a provision of this code, fail to comply with any of the requirements thereof or erect, install, alter or repair work in violation of the *approved construction documents* or directive of the code official, or of a permit or certificate issued under the provisions of this code, shall be guilty of a [SPECIFY OFFENSE], punishable by a fine of not more than [AMOUNT] dollars or by imprisonment not exceeding [NUMBER OF DAYS], or both such fine and imprisonment. Each day that a violation continues after due notice has been served shall be deemed a separate offense.

* [A] **108.5 Stop work orders.** Upon notice from the code official that work is being performed contrary to the provisions of this code or in a dangerous or unsafe manner, such work shall immediately cease. Such notice shall be in writing and shall be given to the owner of the property, the owner's authorized agent, or the person doing the work. The notice shall state the conditions under which work is authorized to resume. Where an emergency exists, the code official shall not be required to give a written notice prior to stopping the work. Any person who shall continue any work on the system after having been served with a stop work order, except such work as that person is directed to perform to remove a violation or unsafe condition, shall be liable for a fine of not less than [AMOUNT] dollars or more than [AMOUNT] dollars.

[A] **108.6 Abatement of violation.** The imposition of the penalties herein prescribed shall not preclude the legal officer of the jurisdiction from instituting appropriate action to prevent unlawful construction, restrain, correct or abate a violation, prevent illegal occupancy of a building, structure or premises, or stop an illegal act, conduct, business or utilization of the installations on or about any premises.

[A] **108.7 Unsafe installations.** An installation that is unsafe, constitutes a fire or health hazard, or is otherwise dangerous to human life, as regulated by this code, is hereby declared an unsafe installation. Use of an installation regulated by this code constituting a hazard to health, safety or welfare by reason of inadequate maintenance, dilapidation, fire hazard, disaster, damage or abandonment is hereby declared an unsafe use. Such unsafe installations are hereby declared to be a public nuisance and shall be abated by repair, rehabilitation, demolition or removal.

[A] **108.7.1 Authority to condemn installations.** Whenever the code official determines that any installation, or portion thereof, regulated by this code has become hazardous to life, health or property, he or she shall order in writing that such installations either be removed or restored to a safe condition. A time limit for compliance with such order shall be specified in the written notice. A person shall not use or maintain a defective installation after receiving such notice.

Where such installation is to be disconnected, written notice as prescribed in Section 108.2 shall be given. In cases of immediate danger to life or property, such disconnection shall be made immediately without such notice.

[A] **108.7.2 Authority to disconnect service utilities.** The code official shall have the authority to require disconnection of utility service to the building, structure or system regulated by the technical codes in case of emergency where necessary to eliminate an immediate hazard to life or property. The code official shall notify the serving utility and, where possible, the owner or the owner's authorized agent and occupant of the building, structure or service system of the decision to disconnect prior to taking such action. If not notified prior to disconnection, the owner or occupant of the building, structure or service system shall be notified in writing, as soon as practicable thereafter.

[A] **108.7.3 Connection after order to disconnect.** A person shall not make energy source connections to installations regulated by this code that have been disconnected or ordered to be disconnected by the code official, or the use of which has been ordered to be discontinued by the code official until the code official authorizes the reconnection and use of such installations.

Where an installation is maintained in violation of this code, and in violation of a notice issued pursuant to the provisions of this section, the code official shall institute appropriate action to prevent, restrain, correct or abate the violation.



SECTION 109 (IFGC) MEANS OF APPEAL

[A] **109.1 Application for appeal.** A person shall have the right to appeal a decision of the code official to the board of appeals. An application for appeal shall be based on a claim that the true intent of this code or the rules legally adopted thereunder have been incorrectly interpreted, the provisions of this code do not fully apply or an equally good or better form of construction is proposed. The application shall be filed on a form obtained from the code official within 20 days after the notice was served.

[A] **109.2 Membership of board.** The board of appeals shall consist of five members appointed by the chief appointing authority as follows: one for 5 years; one for 4 years; one for 3 years; one for 2 years and one for 1 year. Thereafter, each new member shall serve for 5 years or until a successor has been appointed.

[A] **109.2.1 Qualifications.** The board of appeals shall consist of five individuals, one from each of the following professions or disciplines.

1. Registered design professional who is a registered architect; or a builder or superintendent of building construction with not less than 10 years' experience, 5 of which shall have been in responsible charge of work.
2. Registered design professional with structural engineering or architectural experience.
3. Registered design professional with fuel gas and plumbing engineering experience; or a fuel gas contractor with not less than 10 years' experience, 5 of which shall have been in responsible charge of work.

4. Registered design professional with electrical engineering experience; or an electrical contractor with not less than 10 years' experience, 5 of which shall have been in responsible charge of work.
5. Registered design professional with fire protection engineering experience; or a fire protection contractor with not less than 10 years' experience, 5 of which shall have been in responsible charge of work.

[A] **109.2.2 Alternate members.** The chief appointing authority shall appoint two alternate members who shall be called by the board chairman to hear appeals during the absence or disqualification of a member. Alternate members shall possess the qualifications required for board membership and shall be appointed for 5 years, or until a successor has been appointed.

[A] **109.2.3 Chairman.** The board shall annually select one of its members to serve as chairman.

[A] **109.2.4 Disqualification of member.** A member shall not hear an appeal in which that member has a personal, professional or financial interest.

[A] **109.2.5 Secretary.** The chief administrative officer shall designate a qualified clerk to serve as secretary to the board. The secretary shall file a detailed record of all proceedings in the office of the chief administrative officer.

[A] **109.2.6 Compensation of members.** Compensation of members shall be determined by law.

[A] **109.3 Notice of meeting.** The board shall meet upon notice from the chairman, within 10 days of the filing of an appeal, or at stated periodic meetings.

[A] **109.4 Open hearing.** Hearings before the board shall be open to the public. The appellant, the appellant's representative, the code official and any person whose interests are affected shall be given an opportunity to be heard.

[A] **109.4.1 Procedure.** The board shall adopt and make available to the public through the secretary procedures under which a hearing will be conducted. The procedures shall not require compliance with strict rules of evidence, but shall mandate that only relevant information be received.

[A] **109.5 Postponed hearing.** Where five members are not present to hear an appeal, either the appellant or the appellant's representative shall have the right to request a postponement of the hearing.

[A] **109.6 Board decision.** The board shall modify or reverse the decision of the code official by a concurring vote of three members.

[A] **109.6.1 Resolution.** The decision of the board shall be by resolution. Certified copies shall be furnished to the appellant and to the code official.

[A] **109.6.2 Administration.** The code official shall take immediate action in accordance with the decision of the board.

[A] **109.7 Court review.** Any person, whether or not a previous party to the appeal, shall have the right to apply to the appropriate court for a writ of certiorari to correct errors of law. Application for review shall be made in the manner and time required by law following the filing of the decision in the office of the chief administrative officer.

floor membranes will be attached, the pipe shall be protected by shield plates that cover the width of the pipe and the framing member and that extend not less than 4 inches (102 mm) to each side of the framing member. Where the framing member that the piping passes through is a bottom plate, bottom track, top plate or top track, the shield plates shall cover the framing member and extend not less than 4 inches (102 mm) above the bottom framing member and not less than 4 inches (102 mm) below the top framing member.

404.7.2 Piping installed in other locations. Where the piping is located within a framing member and is less than $1\frac{1}{2}$ inches (38 mm) from the framing member face to which wall, ceiling or floor membranes will be attached, the piping shall be protected by shield plates that cover the width and length of the piping. Where the piping is located outside of a framing member and is located less than $1\frac{1}{2}$ inches (38 mm) from the nearest edge of the face of the framing member to which the membrane will be attached, the piping shall be protected by shield plates that cover the width and length of the piping.

404.7.3 Shield plates. Shield plates shall be of steel material having a thickness of not less than 0.0575 inch (1.463 mm) (No. 16 gage).

404.8 Piping in solid floors. Piping in solid floors shall be laid in channels in the floor and covered in a manner that will allow access to the piping with a minimum amount of damage to the building. Where such piping is subject to exposure to excessive moisture or corrosive substances, the piping shall be protected in an approved manner. As an alternative to installation in channels, the piping shall be installed in a conduit of Schedule 40 steel, wrought iron, PVC or ABS pipe in accordance with Section 404.8.1 or 404.8.2.

404.8.1 Conduit with one end terminating outdoors. The conduit shall extend into an occupiable portion of the building and, at the point where the conduit terminates in the building, the space between the conduit and the gas piping shall be sealed to prevent the possible entrance of any gas leakage. The conduit shall extend not less than 2 inches (51 mm) beyond the point where the pipe emerges from the floor. If the end sealing is capable of withstanding the full pressure of the gas pipe, the conduit shall be designed for the same pressure as the pipe. Such conduit shall extend not less than 4 inches (102 mm) outside the building, shall be vented above grade to the outdoors and shall be installed so as to prevent the entrance of water and insects.

404.8.2 Conduit with both ends terminating indoors. Where the conduit originates and terminates within the same building, the conduit shall originate and terminate in an accessible portion of the building and shall not be sealed. The conduit shall extend not less than 2 inches (51 mm) beyond the point where the pipe emerges from the floor.

404.9 Above-ground outdoor piping. Piping installed outdoors shall be elevated not less than $3\frac{1}{2}$ inches (89 mm) above ground and where installed across roof surfaces, shall be elevated not less than $3\frac{1}{2}$ inches (89 mm) above the roof surface. Piping installed above ground, outdoors, and

installed across the surface of roofs shall be securely supported and located where it will be protected from physical damage. Where passing through an outside wall, the piping shall be protected against corrosion by coating or wrapping with an inert material. Where piping is encased in a protective pipe sleeve, the annular space between the piping and the sleeve shall be sealed.

404.10 Isolation. Metallic piping and metallic tubing that conveys fuel gas from an LP-gas storage container shall be provided with an approved dielectric fitting to electrically isolate the underground portion of the pipe or tube from the above-ground portion that enters a building. Such dielectric fitting shall be installed above ground, outdoors.

404.11 Protection against corrosion. Steel pipe or tubing exposed to corrosive action, such as soil conditions or moisture, shall be protected in accordance Sections 404.11.1 through 404.11.5.

404.11.1 Galvanizing. Zinc coating shall not be deemed adequate protection for underground gas piping.

404.11.2 Protection methods. Underground piping shall comply with one or more of the following:

1. The piping shall be made of corrosion-resistant material that is suitable for the environment in which it will be installed.
2. Pipe shall have a factory-applied, electrically-insulating coating. Fittings and joints between sections of coated pipe shall be coated in accordance with the coating manufacturer's instructions.
3. The piping shall have a cathodic protection system installed and the system shall be monitored and maintained in accordance with an approved program.

404.11.3 Dissimilar metals. Where dissimilar metals are joined underground, an insulating coupling or fitting shall be used.

404.11.4 Protection of risers. Steel risers connected to plastic piping shall be cathodically protected by means of a welded anode, except where such risers are anodeless risers.

404.11.5 Prohibited use. Uncoated threaded or socket-welded joints shall not be used in piping in contact with soil or where internal or external crevice corrosion is known to occur.

* **404.12 Minimum burial depth.** Underground piping systems shall be installed a minimum depth of 12 inches (305 mm) below grade, except as provided for in Section 404.12.1.

✕ **404.12.1 Individual outdoor appliances.** Individual lines to outdoor lights, grills and other appliances shall be installed not less than 8 inches (203 mm) below finished grade, provided that such installation is approved and is installed in locations not susceptible to physical damage.

404.13 Trenches. The trench shall be graded so that the pipe has a firm, substantially continuous bearing on the bottom of the trench.

404.14 Piping underground beneath buildings. Piping installed underground beneath buildings is prohibited except

405.3 Plastic pipe. Plastic pipe bends shall comply with the following:

1. The pipe shall not be damaged and the internal diameter of the pipe shall not be effectively reduced.
2. Joints shall not be located in pipe bends.
3. The radius of the inner curve of such bends shall be not less than 25 times the inside diameter of the pipe.
4. Where the *pipng* manufacturer specifies the use of special bending tools or procedures, such tools or procedures shall be used.

405.4 Elbows. Factory-made welding elbows or transverse segments cut therefrom shall have an arc length measured along the crotch of not less than 1 inch (25 mm) in pipe sizes 2 inches (51 mm) and larger.

SECTION 406 (IFGS) INSPECTION, TESTING AND PURGING

406.1 General. Prior to acceptance and initial operation, all *pipng* installations shall be visually inspected and pressure tested to determine that the materials, design, fabrication and installation practices comply with the requirements of this code.

406.1.1 Inspections. Inspection shall consist of visual examination during or after manufacture, fabrication, assembly or pressure tests.

406.1.2 Repairs and additions. In the event repairs or additions are made after the pressure test, the affected *pipng* shall be tested.

Minor repairs and additions are not required to be pressure tested provided that the work is inspected and connections are tested with a noncorrosive leak-detecting fluid or other *approved* leak-detecting methods.

406.1.3 New branches. Where new branches are installed to new *appliances*, only the newly installed branches shall be required to be pressure tested. Connections between the new *pipng* and the existing *pipng* shall be tested with a noncorrosive leak-detecting fluid or other *approved* leak-detecting methods.

406.1.4 Section testing. A *pipng* system shall be permitted to be tested as a complete unit or in sections. A valve in a line shall not be used as a bulkhead between gas in one section of the *pipng* system and test medium in an adjacent section, except where a double block and bleed valve system is installed. A valve shall not be subjected to the test pressure unless it can be determined that the valve, including the valve-closing mechanism, is designed to safely withstand the test pressure.

406.1.5 Regulators and valve assemblies. Regulator and valve assemblies fabricated independently of the *pipng* system in which they are to be installed shall be permitted to be tested with inert gas or air at the time of fabrication.

406.1.6 Pipe clearing. Prior to testing, the interior of the pipe shall be cleared of all foreign material.

406.2 Test medium. The test medium shall be air, nitrogen, carbon dioxide or an inert gas. Oxygen shall not be used as a test medium.

406.3 Test preparation. Pipe joints, including welds, shall be left exposed for examination during the test.

Exception: Covered or concealed pipe end joints that have been previously tested in accordance with this code.

406.3.1 Expansion joints. Expansion joints shall be provided with temporary restraints, if required, for the additional thrust load under test.

406.3.2 Appliance and equipment isolation. *Appliances* and *equipment* that are not to be included in the test shall be either disconnected from the *pipng* or isolated by blanks, blind flanges or caps. Flanged joints at which blinds are inserted to blank off other *equipment* during the test shall not be required to be tested.

406.3.3 Appliance and equipment disconnection. Where the *pipng* system is connected to *appliances* or *equipment* designed for operating pressures of less than the test pressure, such *appliances* or *equipment* shall be isolated from the *pipng* system by disconnecting them and capping the outlet(s).

406.3.4 Valve isolation. Where the *pipng* system is connected to *appliances* or *equipment* designed for operating pressures equal to or greater than the test pressure, such *appliances* or *equipment* shall be isolated from the *pipng* system by closing the individual *appliance* or *equipment* shutoff valve(s).

406.3.5 Testing precautions. Testing of *pipng* systems shall be performed in a manner that protects the safety of employees and the public during the test.

406.4 Test pressure measurement. Test pressure shall be measured with a manometer or with a pressure-measuring device designed and calibrated to read, record or indicate a pressure loss caused by leakage during the pressure test period. The source of pressure shall be isolated before the pressure tests are made. Mechanical gauges used to measure test pressures shall have a range such that the highest end of the scale is not greater than five times the test pressure.

406.4.1 Test pressure. The test pressure to be used shall be not less than 1½ times the proposed maximum working pressure, but not less than 3 psig (20 kPa gauge), irrespective of design pressure. Where the test pressure exceeds 125 psig (862 kPa gauge), the test pressure shall not exceed a value that produces a hoop stress in the *pipng* greater than 50 percent of the specified minimum yield strength of the pipe.

406.4.2 Test duration. Test duration shall be not less than ½ hour for each 500 cubic feet (14 m³) of pipe volume or fraction thereof. When testing a system having a volume less than 10 cubic feet (0.28 m³) or a system in a single-family dwelling, the test duration shall be not less than 10 minutes. The duration of the test shall not be required to exceed 24 hours.

2 0 1 8

INTERNATIONAL CODES[®]

IEBC[®]

A Member of the International Code Family[®]

INTERNATIONAL
EXISTING BUILDING CODE[®]



CHAPTER 1

SCOPE AND ADMINISTRATION

User note:

About this chapter: Chapter 1 establishes the limits of applicability of the code and describes how the code is to be applied and enforced. Chapter 1 is in two parts: Part 1—Scope and Administration (Sections 101–102) and Part 2—Administration and Enforcement (Sections 103–117). Section 101 identifies which buildings and structures come under its purview and references other I-Codes® as applicable.

This code is intended to be adopted as a legally enforceable document, and it cannot be effective without adequate provisions for its administration and enforcement. The provisions of Chapter 1 establish the authority and duties of the code official appointed by the authority having jurisdiction and also establish the rights and privileges of the registered design professional, contractor and property owner.

PART 1—SCOPE AND APPLICATION

SECTION 101 GENERAL

* [A] **101.1 Title.** These regulations shall be known as the *Existing Building Code* of [NAME OF JURISDICTION], hereinafter referred to as “this code.”

[A] **101.2 Scope.** The provisions of this code shall apply to the *repair, alteration, change of occupancy, addition* and relocation of *existing buildings*.

Exception: Detached one- and two-family *dwelling*s and multiple single-family *dwelling*s (*townhouses*) not more than three *stories above grade plane* in height with a separate *means of egress*, and their accessory structures not more than three *stories above grade plane* in height, shall comply with this code or the *International Residential Code*.

[A] **101.3 Intent.** The intent of this code is to provide flexibility to permit the use of alternative approaches to achieve compliance with minimum requirements to safeguard the public health, safety and welfare insofar as they are affected by the *repair, alteration, change of occupancy, addition* and relocation of *existing buildings*.

[A] **101.4 Applicability.** This code shall apply to the *repair, alteration, change of occupancy, addition* and relocation of *existing buildings*, regardless of occupancy, subject to the criteria of Sections 101.4.1 and 101.4.2.

[A] **101.4.1 Buildings not previously occupied.** A building or portion of a building that has not been previously occupied or used for its intended purpose, in accordance with the laws in existence at the time of its completion, shall be permitted to comply with the provisions of the laws in existence at the time of its original permit unless such permit has expired. Subsequent permits shall comply with the *International Building Code* or *International Residential Code*, as applicable, for new construction.

[A] **101.4.2 Buildings previously occupied.** The legal occupancy of any building existing on the date of adoption of this code shall be permitted to continue without change, except as is specifically covered in this code, the *International Fire Code*, or the *International Property Maintenance*

Code, or as is deemed necessary by the *code official* for the general safety and welfare of the occupants and the public.

[A] **101.5 Safeguards during construction.** Construction work covered in this code, including any related demolition, shall comply with the requirements of Chapter 15.

[A] **101.6 Appendices.** The *code official* is authorized to require retrofit of buildings, structures or individual structural members in accordance with the appendices of this code if such appendices have been individually adopted.

[A] **101.7 Correction of violations of other codes.** *Repairs* or *alterations* mandated by any property, housing, or fire safety maintenance code or mandated by any licensing rule or ordinance adopted pursuant to law shall conform only to the requirements of that code, rule, or ordinance and shall not be required to conform to this code unless the code requiring such *repair* or *alteration* so provides.

SECTION 102 APPLICABILITY

[A] **102.1 General.** Where there is a conflict between a general requirement and a specific requirement, the specific requirement shall be applicable. Where in any specific case different sections of this code specify different materials, methods of construction or other requirements, the most restrictive shall govern.

[A] **102.2 Other laws.** The provisions of this code shall not be deemed to nullify any provisions of local, state, or federal law.

[A] **102.3 Application of references.** References to chapter or section numbers or to provisions not specifically identified by number shall be construed to refer to such chapter, section, or provision of this code.

[A] **102.4 Referenced codes and standards.** The codes and standards referenced in this code shall be considered part of the requirements of this code to the prescribed extent of each such reference and as further regulated in Sections 102.4.1 and 102.4.2.

Exception: Where enforcement of a code provision would violate the conditions of the listing of the equipment or appliance, the conditions of the listing shall govern.

SCOPE AND ADMINISTRATION

gas, mechanical, or plumbing installation, the *code official* is authorized to issue an annual permit on application therefor to any person, firm, or corporation regularly employing one or more qualified trade persons in the building, structure, or on the premises owned or operated by the applicant for the permit.

[A] **105.1.2 Annual permit records.** The person to whom an annual permit is issued shall keep a detailed record of *alterations* made under such annual permit. The *code official* shall have access to such records at all times, or such records shall be filed with the *code official* as designated.

* [A] **105.2 Work exempt from permit.** Exemptions from permit requirements of this code shall not be deemed to grant authorization for any work to be done in any manner in violation of the provisions of this code or any other laws or ordinances of this jurisdiction. Permits shall not be required for the following:

Building:

1. Sidewalks and driveways not more than 30 inches (762 mm) above grade and not over any basement or story below and that are not part of an accessible route.
2. Painting, papering, tiling, carpeting, cabinets, counter tops, and similar finish work.
3. Temporary motion picture, television, and theater stage sets and scenery.
4. Shade cloth structures constructed for nursery or agricultural purposes, and not including service systems.
5. Window awnings supported by an exterior wall of Group R-3 or Group U occupancies.
6. Movable cases, counters, and partitions not over 69 inches (1753 mm) in height.

Electrical:

1. **Repairs and maintenance:** Minor *repair* work, including the replacement of lamps or the connection of *approved* portable electrical equipment to *approved* permanently installed receptacles.
2. **Radio and television transmitting stations:** The provisions of this code shall not apply to electrical equipment used for radio and television transmissions, but do apply to equipment and wiring for power supply, the installations of towers, and antennas.
3. **Temporary testing systems:** A permit shall not be required for the installation of any temporary system required for the testing or servicing of electrical equipment or apparatus.

Gas:

1. Portable heating appliance.
2. Replacement of any minor part that does not alter approval of equipment or make such equipment unsafe.

Mechanical:

1. Portable heating appliance.
2. Portable ventilation equipment.

3. Portable cooling unit.
4. Steam, hot, or chilled water piping within any heating or cooling equipment regulated by this code.
5. Replacement of any part that does not alter its approval or make it unsafe.
6. Portable evaporative cooler.
7. Self-contained refrigeration system containing 10 pounds (4.54 kg) or less of refrigerant and actuated by motors of 1 horsepower (746 W) or less.

Plumbing:

1. The stopping of leaks in drains, water, soil, waste, or vent pipe; provided, however, that if any concealed trap, drainpipe, water, soil, waste, or vent pipe becomes defective and it becomes necessary to remove and replace the same with new material, such work shall be considered as new work, and a permit shall be obtained and inspection made as provided in this code.
2. The clearing of stoppages or the repairing of leaks in pipes, valves, or fixtures, and the removal and reinstallation of water closets, provided that such *repairs* do not involve or require the replacement or rearrangement of valves, pipes, or fixtures.

[A] **105.2.1 Emergency repairs.** Where equipment replacements and *repairs* must be performed in an emergency situation, the permit application shall be submitted within the next working business day to the *code official*.

[A] **105.2.2 Repairs.** Application or notice to the *code official* is not required for *repairs* to structures and items listed in Section 105.2 provided that such *repairs* do not include any of the following:

1. The cutting away of any wall, partition, or portion thereof.
2. The removal or cutting of any structural beam or load-bearing support.
3. The removal or change of any required means of egress or rearrangement of parts of a structure affecting the egress requirements.
4. Any *addition* to, *alteration* of, replacement or relocation of any standpipe, water supply, sewer, drainage, drain leader, gas, soil, waste, vent, or similar piping, or electric wiring.
5. Mechanical or other work affecting public health or general safety.

[A] **105.2.3 Public service agencies.** A permit shall not be required for the installation, *alteration*, or *repair* of generation, transmission, distribution, or metering or other related equipment that is under the ownership and control of public service agencies by established right.

[A] **105.3 Application for permit.** To obtain a permit, the applicant shall first file an application therefor in writing on a form furnished by the Department of Building Safety for that purpose. Such application shall:

1. Identify and describe the work in accordance with Chapter 3 to be covered by the permit for which application is made.

SECTION 107 TEMPORARY STRUCTURES AND USES

[A] **107.1 General.** The *code official* is authorized to issue a permit for temporary uses. Such permits shall be limited as to time of service but shall not be permitted for more than 180 days. The *code official* is authorized to grant extensions for demonstrated cause.

[A] **107.2 Conformance.** Temporary uses shall conform to the structural strength, fire safety, means of egress, accessibility, light, ventilation and sanitary requirements of this code as necessary to ensure the public health, safety and general welfare.

[A] **107.3 Temporary power.** The *code official* is authorized to give permission to temporarily supply and use power in part of an electric installation before such installation has been fully completed and the final certificate of completion has been issued. The part covered by the temporary certificate shall comply with the requirements specified for temporary lighting, heat or power in NFPA 70.

[A] **107.4 Termination of approval.** The *code official* is authorized to terminate such permit for a temporary use and to order the temporary use to be discontinued.

SECTION 108 FEES

[A] **108.1 Payment of fees.** A permit shall not be valid until the fees prescribed by law have been paid. Nor shall an amendment to a permit be released until the additional fee, if any, has been paid.

[A] **108.2 Schedule of permit fees.** On buildings, electrical, gas, mechanical, and plumbing systems or *alterations* requiring a permit, a fee for each permit shall be paid as required in accordance with the schedule as established by the applicable governing authority.

[A] **108.3 Building permit valuations.** The applicant for a permit shall provide an estimated permit value at time of application. Permit valuations shall include total value of work including materials and labor for which the permit is being issued, such as electrical, gas, mechanical, plumbing equipment, and permanent systems. If, in the opinion of the *code official*, the valuation is underestimated on the application, the permit shall be denied unless the applicant can show detailed estimates to meet the approval of the *code official*. Final building permit valuation shall be set by the *code official*.

[A] **108.4 Work commencing before permit issuance.** Any person who commences any work before obtaining the necessary permits shall be subject to an additional fee established by the *code official* that shall be in addition to the required permit fees.

[A] **108.5 Related fees.** The payment of the fee for the construction, *alteration*, removal, or demolition of work done in connection to or concurrently with the work authorized by a building permit shall not relieve the applicant or holder of the permit from the payment of other fees that are prescribed by law.

[A] **108.6 Refunds.** The *code official* is authorized to establish a refund policy.

SECTION 109 INSPECTIONS

[A] **109.1 General.** Construction or work for which a permit is required shall be subject to inspection by the *code official*, and such construction or work shall remain visible and able to be accessed for inspection purposes until *approved*. Approval as a result of an inspection shall not be construed to be an approval of a violation of the provisions of this code or of other ordinances of the jurisdiction. Inspections presuming to give authority to violate or cancel the provisions of this code or of other ordinances of the jurisdiction shall not be valid. It shall be the duty of the permit applicant to cause the work to remain visible and able to be accessed for inspection purposes. Neither the *code official* nor the jurisdiction shall be liable for expense entailed in the removal or replacement of any material required to allow inspection.

[A] **109.2 Preliminary inspection.** Before issuing a permit, the *code official* is authorized to examine or cause to be examined buildings and sites for which an application has been filed.

[A] **109.3 Required inspections.** The *code official*, on notification, shall make the inspections set forth in Sections 109.3.1 through 109.3.10.

[A] **109.3.1 Footing or foundation inspection.** Footing and foundation inspections shall be made after excavations for footings are complete and any required reinforcing steel is in place. For concrete foundations, any required forms shall be in place prior to inspection. Materials for the foundation shall be on the job, except where concrete is ready-mixed in accordance with ASTM C94, the concrete need not be on the job.

[A] **109.3.2 Concrete slab or under-floor inspection.** Concrete slab and under-floor inspections shall be made after in-slab or under-floor reinforcing steel and building service equipment, conduit, piping accessories, and other ancillary equipment items are in place but before any concrete is placed or floor sheathing installed, including the subfloor.

[A] **109.3.3 Lowest floor elevation.** For *additions* and *substantial improvements* to existing buildings in flood hazard areas, on placement of the lowest floor, including basement, and prior to further vertical construction, the elevation documentation required in the *International Building Code* shall be submitted to the *code official*.

[A] **109.3.4 Frame inspection.** Framing inspections shall be made after the roof deck or sheathing, framing, fire blocking, and bracing are in place and pipes, chimneys, and vents to be concealed are complete and the rough electrical, plumbing, heating wires, pipes, and ducts are *approved*.

[A] **109.3.5 Lath or gypsum board inspection.** Lath and gypsum board inspections shall be made after lathing and gypsum board, interior and exterior, is in place but before any plastering is applied or before gypsum board joints and fasteners are taped and finished.

Exception: Gypsum board that is not part of a fire-resistance-rated assembly or a shear assembly.

[A] **111.3 Authority to disconnect service utilities.** The *code official* shall have the authority to authorize disconnection of utility service to the building, structure or system regulated by this code and the referenced codes and standards in case of emergency where necessary to eliminate an immediate hazard to life or property or where such utility connection has been made without the approval required by Section 111.1 or 111.2. The *code official* shall notify the serving utility and, wherever possible, the owner or the owner's authorized agent and the occupant of the building, structure or service system of the decision to disconnect prior to taking such action. If not notified prior to disconnecting, the owner or occupant of the building, structure or service system shall be notified in writing, as soon as practical thereafter.

**SECTION 112
BOARD OF APPEALS**

[A] **112.1 General.** In order to hear and decide appeals of orders, decisions, or determinations made by the *code official* relative to the application and interpretation of this code, there shall be and is hereby created a board of appeals. The board of appeals shall be appointed by the governing body and shall hold office at its pleasure. The board shall adopt rules of procedure for conducting its business.

[A] **112.2 Limitations on authority.** An application for appeal shall be based on a claim that the true intent of this code or the rules legally adopted thereunder have been incorrectly interpreted, the provisions of this code do not fully apply, or an equally good or better form of construction is proposed. The board shall not have authority to waive requirements of this code.

[A] **112.3 Qualifications.** The board of appeals shall consist of members who are qualified by experience and training to pass on matters pertaining to building construction and are not employees of the jurisdiction.

**SECTION 113
VIOLATIONS**

[A] **113.1 Unlawful acts.** It shall be unlawful for any person, firm, or corporation to *repair*, alter, extend, add, move, remove, demolish, or change the occupancy of any building or equipment regulated by this code or cause same to be done in conflict with or in violation of any of the provisions of this code.

[A] **113.2 Notice of violation.** The *code official* is authorized to serve a notice of violation or order on the person responsible for the *repair*, *alteration*, extension, *addition*, moving, removal, demolition, or change in the occupancy of a building in violation of the provisions of this code or in violation of a permit or certificate issued under the provisions of this code. Such order shall direct the discontinuance of the illegal action or condition and the abatement of the violation.

[A] **113.3 Prosecution of violation.** If the notice of violation is not complied with promptly, the *code official* is authorized to request the legal counsel of the jurisdiction to institute the appropriate proceeding at law or in equity to restrain, correct,

or abate such violation or to require the removal or termination of the unlawful occupancy of the building or structure in violation of the provisions of this code or of the order or direction made pursuant thereto.

[A] **113.4 Violation penalties.** Any person who violates a provision of this code or fails to comply with any of the requirements thereof or who *repairs* or alters or changes the occupancy of a building or structure in violation of the approved construction documents or directive of the *code official* or of a permit or certificate issued under the provisions of this code shall be subject to penalties as prescribed by law.

**SECTION 114
STOP WORK ORDER**

[A] **114.1 Authority.** Where the *code official* finds any work regulated by this code being performed in a manner contrary to the provisions of this code or in a *dangerous* or *unsafe* manner, the *code official* is authorized to issue a stop work order.

[A] **114.2 Issuance.** The stop work order shall be in writing and shall be given to the owner of the property involved, the owner's authorized agent or to the person doing the work. Upon issuance of a stop work order, the cited work shall immediately cease. The stop work order shall state the reason for the order and the conditions under which the cited work will be permitted to resume.

[A] **114.3 Unlawful continuance.** Any person who shall continue any work after having been served with a stop work order, except such work as that person is directed to perform to remove a violation or *unsafe* condition, shall be subject to penalties as prescribed by law.

**SECTION 115
UNSAFE BUILDINGS AND EQUIPMENT**

[A] **115.1 Conditions.** Buildings, structures or equipment that are or hereafter become *unsafe*, shall be taken down, removed or made safe as the *code official* deems necessary and as provided for in this code.

[A] **115.2 Record.** The *code official* shall cause a report to be filed on an *unsafe* condition. The report shall state the occupancy of the structure and the nature of the *unsafe* condition.

[A] **115.3 Notice.** If an *unsafe* condition is found, the *code official* shall serve on the owner, the owner's authorized agent or person in control of the structure a written notice that describes the condition deemed *unsafe* and specifies the required *repairs* or improvements to be made to abate the *unsafe* condition, or that requires the *unsafe* building to be demolished within a stipulated time. Such notice shall require the person thus notified to declare immediately to the *code official* acceptance or rejection of the terms of the order.

[A] **115.4 Method of service.** Such notice shall be deemed properly served if a copy thereof is delivered to the owner or the owner's authorized agent personally; sent by certified or registered mail addressed to the owner or the owner's authorized agent at the last known address with the return receipt

2 0 1 8

INTERNATIONAL CODES[®]

IECC[®]

A Member of the International Code Family[®]

INTERNATIONAL
ENERGY CONSERVATION CODE[®]



**SECTION C107
REFERENCED STANDARDS**

C107.1 Referenced codes and standards. The codes and standards referenced in this code shall be those listed in Chapter 6, and such codes and standards shall be considered as part of the requirements of this code to the prescribed extent of each such reference and as further regulated in Sections C107.1.1 and C107.1.2.

C107.1.1 Conflicts. Where conflicts occur between provisions of this code and referenced codes and standards, the provisions of this code shall apply.

C107.1.2 Provisions in referenced codes and standards. Where the extent of the reference to a referenced code or standard includes subject matter that is within the scope of this code, the provisions of this code, as applicable, shall take precedence over the provisions in the referenced code or standard.

C107.2 Application of references. References to chapter or section numbers, or to provisions not specifically identified by number, shall be construed to refer to such chapter, section or provision of this code.

C107.3 Other laws. The provisions of this code shall not be deemed to nullify any provisions of local, state or federal law.

**SECTION C108
STOP WORK ORDER**

C108.1 Authority. Where the *code official* finds any work regulated by this code being performed in a manner either contrary to the provisions of this code or dangerous or unsafe, the *code official* is authorized to issue a stop work order.

* **C108.2 Issuance.** The stop work order shall be in writing and shall be given to the owner of the property involved, the owner's authorized agent, or to the person doing the work. Upon issuance of a stop work order, the cited work shall immediately cease. The stop work order shall state the reason for the order and the conditions under which the cited work will be permitted to resume.

C108.3 Emergencies. Where an emergency exists, the *code official* shall not be required to give a written notice prior to stopping the work.

* **C108.4 Failure to comply.** Any person who shall continue any work after having been served with a stop work order, except such work as that person is directed to perform to remove a violation or unsafe condition, shall be liable to a fine as set by the applicable governing authority.

* **SECTION C109
BOARD OF APPEALS**

C109.1 General. In order to hear and decide appeals of orders, decisions or determinations made by the *code official* relative to the application and interpretation of this code, there shall be and is hereby created a board of appeals. The *code official* shall be an ex officio member of said board but shall not have a vote on any matter before the board. The board of appeals shall be appointed by the governing body

and shall hold office at its pleasure. The board shall adopt rules of procedure for conducting its business, and shall render all decisions and findings in writing to the appellant with a duplicate copy to the *code official*.

C109.2 Limitations on authority. An application for appeal shall be based on a claim that the true intent of this code or the rules legally adopted thereunder have been incorrectly interpreted, the provisions of this code do not fully apply or an equally good or better form of construction is proposed. The board shall not have authority to waive requirements of this code.

C109.3 Qualifications. The board of appeals shall consist of members who are qualified by experience and training and are not employees of the jurisdiction.

SCOPE AND ADMINISTRATION

* **R108.2 Issuance.** The stop work order shall be in writing and shall be given to the owner of the property involved, to the owner's authorized agent, or to the person doing the work. Upon issuance of a stop work order, the cited work shall immediately cease. The stop work order shall state the reason for the order and the conditions under which the cited work will be permitted to resume.

R108.3 Emergencies. Where an emergency exists, the *code official* shall not be required to give a written notice prior to stopping the work.

* **R108.4 Failure to comply.** Any person who shall continue any work after having been served with a stop work order, except such work as that person is directed to perform to remove a violation or unsafe condition, shall be subject to a fine as set by the applicable governing authority.

* SECTION R109 BOARD OF APPEALS

R109.1 General. In order to hear and decide appeals of orders, decisions or determinations made by the *code official* relative to the application and interpretation of this code, there shall be and is hereby created a board of appeals. The *code official* shall be an ex officio member of said board but shall not have a vote on any matter before the board. The board of appeals shall be appointed by the governing body and shall hold office at its pleasure. The board shall adopt rules of procedure for conducting its business, and shall render all decisions and findings in writing to the appellant with a duplicate copy to the *code official*.

R109.2 Limitations on authority. An application for appeal shall be based on a claim that the true intent of this code or the rules legally adopted thereunder have been incorrectly interpreted, the provisions of this code do not fully apply or an equally good or better form of construction is proposed. The board shall not have authority to waive requirements of this code.

R109.3 Qualifications. The board of appeals shall consist of members who are qualified by experience and training and are not employees of the jurisdiction.

2 0 1 8

INTERNATIONAL CODES[®]

ISPPSC[®]

A Member of the International Code Family[™]

INCLUDES

APSP-7 Standard for Suction
Entrapment Avoidance

INTERNATIONAL
SWIMMING POOL AND SPA CODE[®]



SCOPE AND ADMINISTRATION

[A] **102.7 Referenced codes and standards.** The codes and standards referenced in this code shall be those that are listed in Chapter 11 and such codes and standards shall be considered to be part of the requirements of this code to the prescribed extent of each such reference. Where differences occur between provisions of this code and the referenced standards, the provisions of this code shall be the minimum requirements.

[A] **102.7.1 Application of the International Codes.** Where the *International Residential Code* is referenced in this code, the provisions of the *International Residential Code* shall apply to related systems in detached one- and two-family dwellings and townhouses not more than three stories in height. Other related systems shall comply with the applicable International Code or referenced standard.

[A] **102.8 Requirements not covered by code.** Any requirements necessary for the strength, stability or proper operation of an existing or proposed system, or for the public safety, health and general welfare, not specifically covered by this code shall be determined by the code official.

* [A] **102.9 Other laws.** The provisions of this code shall not be deemed to nullify any provisions of local, state or federal law.

[A] **102.10 Application of references.** References to chapter or section numbers, or to provisions not specifically identified by number, shall be construed to refer to such chapter, section or provision of this code.

PART 2—ADMINISTRATION AND ENFORCEMENT

SECTION 103 DEPARTMENT OF BUILDING SAFETY

[A] **103.1 Creation of enforcement agency.** The department of building safety is hereby created and the official in charge thereof shall be known as the code official.

[A] **103.2 Appointment.** The code official shall be appointed by the chief appointing authority of the jurisdiction.

[A] **103.3 Deputies.** In accordance with the prescribed procedures of the jurisdiction and with the concurrence of the appointing authority, the code official shall have the authority to appoint a deputy code official, the related technical officers, inspectors, plans examiners and other employees. Such employees shall have powers as delegated by the code official.

[A] **103.4 Liability.** The code official, member of the board of appeals or employee charged with the enforcement of this code, while acting for the jurisdiction in good faith and without malice in the discharge of the duties required by this code or other pertinent law or ordinance, shall not thereby be rendered civilly or criminally liable personally and is hereby relieved from personal liability for any damage accruing to persons or property as a result of any act or by reason of an act or omission in the discharge of official duties.

[A] **103.4.1 Legal defenses.** Any suit or criminal complaint instituted against an officer or employee because of an act performed by that officer or employee in the lawful

discharge of duties and under the provisions of this code shall be defended by legal representatives of the jurisdiction until the final termination of the proceedings. The code official or any subordinate shall not be liable for cost in any action, suit or proceeding that is instituted in pursuance of the provisions of this code.

SECTION 104 DUTIES AND POWERS OF THE CODE OFFICIAL

[A] **104.1 General.** The code official is hereby authorized and directed to enforce the provisions of this code. The code official shall have the authority to render interpretations of this code and to adopt policies and procedures in order to clarify the application of its provisions. Such interpretations, policies and procedures shall be in compliance with the intent and purpose of this code. Such policies and procedures shall not have the effect of waiving requirements specifically provided for in this code.

[A] **104.2 Applications and permits.** The code official shall receive applications, review construction documents and issue permits for the erection, alteration, demolition and moving of pools, spas and related mechanical, electrical and plumbing systems. The code official shall inspect the premises for which such permits have been issued and enforce compliance with the provisions of this code.

[A] **104.3 Notices and orders.** The code official shall issue necessary notices or orders to ensure compliance with this code.

[A] **104.4 Inspections.** The code official shall make the required inspections, or the code official shall have the authority to accept reports of inspection by *approved* agencies or individuals. Reports of such inspections shall be in writing and be certified by a responsible officer of such *approved* agency or by the responsible individual. The code official is authorized to engage such expert opinion as deemed necessary to report on unusual technical issues that arise, subject to the approval of the appointing authority.

[A] **104.5 Identification.** The code official shall carry proper identification when inspecting structures or premises in the performance of duties under this code.

[A] **104.6 Right of entry.** Where it is necessary to make an inspection to enforce the provisions of this code, or where the code official has reasonable cause to believe that there exists in a structure or on a premises a condition that is contrary to or in violation of this code that makes the structure or premises unsafe, dangerous or hazardous, the code official is authorized to enter the structure or premises at reasonable times to inspect or to perform the duties imposed by this code, provided that if such structure or premises be occupied that credentials be presented to the occupant and entry requested. If such structure or premises is unoccupied, the code official shall first make a reasonable effort to locate the owner, the owner's authorized agent or other person having charge or control of the structure or premises and request entry. If entry is refused, the code official shall have recourse to the remedies provided by law to secure entry.

[A] 105.4 Time limitation of application. An application for a permit for any proposed work shall be deemed to have been abandoned 180 days after the date of filing unless such application has been pursued in good faith or a permit has been issued; except that the code official is authorized to grant one or more extensions of time for additional periods not exceeding 180 days each. The extension shall be requested in writing and justifiable cause demonstrated.

[A] 105.5 Permit issuance. The application, construction documents and other data filed by an applicant for permit shall be reviewed by the code official. If the code official finds that the proposed work conforms to the requirements of this code and laws and ordinances applicable thereto, and that the fees specified in Section 105.6 have been paid, a permit shall be issued to the applicant.

[A] 105.5.1 Approved construction documents. When the code official issues the permit where construction documents are required, the construction documents shall be endorsed in writing and stamped "APPROVED." Such approved construction documents shall not be changed, modified or altered without authorization from the code official. Work shall be done in accordance with the approved construction documents.

The code official shall have the authority to issue a permit for the construction of a part of a system before the entire construction documents for the whole system have been submitted or approved, provided that adequate information and detailed statements have been filed complying with pertinent requirements of this code. The holders of such permit shall proceed at their own risk without assurance that the permit for the entire system will be granted.

[A] 105.5.2 Validity. The issuance of a permit or approval of construction documents shall not be construed to be a permit for, or an approval of, any violation of any of the provisions of this code or any other ordinance of the jurisdiction. Any permit presuming to give authority to violate or cancel the provisions of this code shall not be valid.

The issuance of a permit based on construction documents and other data shall not prevent the code official from thereafter requiring the correction of errors in said construction documents and other data or from preventing building operations being carried on thereunder where in violation of this code or of other ordinances of this jurisdiction.

[A] 105.5.3 Expiration. Every permit issued shall become invalid unless the work authorized by such permit is commenced within 180 days after its issuance, or if the work authorized by such permit is suspended or abandoned for a period of 180 days after the time the work is commenced. The code official is authorized to grant, in writing, one or more extensions of time, for a period not more than 180 days. The extension shall be requested in writing and justifiable cause demonstrated.

[A] 105.5.4 Extensions. Any permittee holding an unexpired permit shall have the right to apply for an extension of the time within which the permittee will commence work under that permit when work is unable to be commenced within the time required by this section for good

and satisfactory reasons. The code official shall extend the time for action by the permittee for a period not exceeding 180 days if there is reasonable cause. The fee for an extension shall be one-half the amount required for a new permit for such work.

[A] 105.5.5 Suspension or revocation of permit. The code official shall revoke a permit or approval issued under the provisions of this code in case of any false statement or misrepresentation of fact in the application or on the construction documents on which the permit or approval was based.

[A] 105.5.6 Retention of construction documents. One set of approved construction documents shall be retained by the code official for a period of not less than 180 days from date of completion of the permitted work, or as required by state or local laws. One set of approved construction documents shall be returned to the applicant, and said set shall be kept on the site of the building or work at all times during which the work authorized thereby is in progress.

[A] 105.6 Fees. A permit shall not be valid until the fees prescribed by law have been paid. An amendment to a permit shall not be released until the additional fee, if any, has been paid.

[A] 105.6.1 Work commencing before permit issuance. Any person who commences any work on a system before obtaining the necessary permits shall be subject to a fee as indicated in the adopted fee schedule and would be in addition to the required permit fees.

[A] 105.6.2 Fee schedule. The fees for work shall be as indicated in the following schedule:

[JURISDICTION TO INSERT APPROPRIATE SCHEDULE]

[A] 105.6.3 Fee refunds. The code official shall authorize the refunding of fees as follows:

1. The full amount of any fee paid hereunder that was erroneously paid or collected.
2. Not more than [SPECIFY PERCENTAGE] percent of the permit fee paid when no work has been done under a permit issued in accordance with this code.
3. Not more than [SPECIFY PERCENTAGE] percent of the plan review fee paid when an application for a permit for which a plan review fee has been paid is withdrawn or canceled before any plan review effort has been expended.

The code official shall not authorize the refunding of any fee paid except upon written application filed by the original permittee not later than 180 days after the date of fee payment.

SECTION 106 INSPECTIONS

[A] 106.1 General. Construction or work for which a permit is required shall be subject to inspection by the code official and such construction or work shall remain visible and able to be accessed for inspection purposes until approved. Approval as a result of an inspection shall not be construed to be an

SCOPE AND ADMINISTRATION

[A] **106.18 Temporary connection.** The code official shall have the authority to authorize the temporary connection of the building or system to the utility source for the purpose of testing systems.

[A] **106.19 Connection of service utilities.** A person shall not make connections from a utility, source of energy, fuel, power, water system or sewer system to any building or system that is regulated by this code for which a permit is required until authorized by the code official.

SECTION 107 VIOLATIONS

[A] **107.1 Unlawful acts.** It shall be unlawful for any person, firm or corporation to erect, construct, alter, repair, remove, demolish or utilize any system, or cause same to be done, in conflict with or in violation of any of the provisions of this code.

[A] **107.2 Notice of violation.** The code official shall serve a notice of violation or order to the person responsible for the erection, installation, alteration, extension, repair, removal or demolition of work in violation of the provisions of this code, or in violation of a detail statement or the *approved* construction documents there under, or in violation of a permit or certificate issued under the provisions of this code. Such order shall direct the discontinuance of the illegal action or condition and the abatement of the violation.

[A] **107.3 Prosecution of violation.** If the notice of violation is not complied with promptly, the code official shall request the legal counsel of the jurisdiction to institute the appropriate proceeding at law or in equity to restrain, correct or abate such violation, or to require the removal or termination of the unlawful pool or spa in violation of the provisions of this code or of the order or direction made pursuant thereto.

* [A] **107.4 Violation penalties.** Any person who shall violate a provision of this code or shall fail to comply with any of the requirements thereof or who shall erect, install, alter or repair a pool or spa in violation of the *approved* construction documents or directive of the code official, or of a permit or certificate issued under the provisions of this code, shall be guilty of a [SPECIFY OFFENSE], punishable by a fine of not more than [AMOUNT] dollars or by imprisonment not exceeding [NUMBER OF DAYS], or both such fine and imprisonment. Each day that a violation continues after due notice has been served shall be deemed a separate offense.

* [A] **107.5 Stop work orders.** Upon notice from the *code official*, work on any system that is being performed contrary to the provisions of this code or in a dangerous or unsafe manner shall immediately cease. Such notice shall be in writing and shall be given to the owner of the property, or to the owner's authorized agent, or to the person performing the work. The notice shall state the conditions under which work is authorized to resume. Where an emergency exists, the code official shall not be required to give a written notice prior to stopping the work. Any person who shall continue any work in or about the structure after having been served with a stop work order, except such work as that person is directed to

perform to remove a violation or unsafe condition, shall be liable to a fine of not less than [AMOUNT] dollars or more than [AMOUNT] dollars.

[A] **107.6 Abatement of violation.** The imposition of the penalties herein prescribed shall not preclude the legal officer of the jurisdiction from instituting appropriate action to prevent violation, or to prevent illegal use of a pool or spa, or to stop an illegal act, conduct, business or utilization of the plumbing on or about any premises.

[A] **107.7 Unsafe systems.** Any system regulated by this code that is unsafe or that constitutes a fire or health hazard, insanitary condition, or is otherwise dangerous to human life is hereby declared unsafe. Any use of a system regulated by this code constituting a hazard to safety, health or public welfare by reason of inadequate maintenance, dilapidation, obsolescence, fire hazard, disaster, damage or abandonment is hereby declared an unsafe use. Any such unsafe system is hereby declared to be a public nuisance and shall be abated by repair, rehabilitation, demolition or removal.

[A] **107.7.1 Authority to condemn a system.** Where the code official determines that any system, or portion thereof, regulated by this code has become hazardous to life, health or property or has become insanitary, the code official shall order in writing that such system either be removed or restored to a safe or sanitary condition. A time limit for compliance with such order shall be specified in the written notice. A person shall not use or maintain a defective system after receiving such notice.

Where such a system is to be disconnected, written notice as prescribed in Section 107.2 shall be given. In cases of immediate danger to life or property, such disconnection shall be made immediately without such notice.

[A] **107.7.2 Authority to disconnect service utilities.** The code official shall have the authority to authorize disconnection of utility service to the pool or spa regulated by the technical codes in case of an emergency, where necessary, to eliminate an immediate danger to life or property. Where possible, the owner or the owner's authorized agent and occupant of the building where the pool or spa is located shall be notified of the decision to disconnect utility service prior to taking such action. If not notified prior to disconnecting, the owner, the owner's authorized agent or the occupant of the building shall be notified in writing, as soon as practical thereafter.

[A] **107.7.3 Connection after order to disconnect.** A person shall not make connections from any energy, fuel, power supply or water distribution system, or supply energy, fuel or water to any equipment regulated by this code that has been disconnected or ordered to be disconnected by the code official or the use of which has been ordered to be discontinued by the code official until the code official authorizes the reconnection and use of such equipment.

When any system is maintained in violation of this code, and in violation of any notice issued pursuant to the provisions of this section, the code official shall institute any appropriate action to prevent, restrain, correct or abate the violation.



SECTION 108 MEANS OF APPEAL

[A] 108.1 Application for appeal. Any person shall have the right to appeal a decision of the code official to the board of appeals. An application for appeal shall be based on a claim that the true intent of this code or the rules legally adopted there under have been incorrectly interpreted, the provisions of this code do not fully apply, or an equally good or better form of construction is proposed. The application shall be filed on a form obtained from the code official within 20 days after the notice was served.

[A] 108.2 Membership of board. The board of appeals shall consist of five members appointed by the chief appointing authority as follows: one for 5 years, one for 4 years, one for 3 years, one for 2 years and one for 1 year. Thereafter, each new member shall serve for 5 years or until a successor has been appointed.

[A] 108.2.1 Qualifications. The board of appeals shall consist of five individuals, one from each of the following professions or disciplines:

1. Registered design professional who is a registered architect; or a builder or superintendent of building construction with not less than 10 years' experience, 5 years of which shall have been in responsible charge of work.
2. Registered design professional with structural engineering or architectural experience.
3. Registered design professional with mechanical and plumbing engineering experience; or a mechanical and plumbing contractor with not less than 10 years' experience, 5 years of which shall have been in responsible charge of work.
4. Registered design professional with electrical engineering experience; or an electrical contractor with not less than 10 years' experience, 5 years of which shall have been in responsible charge of work.
5. Registered design professional with pool or spa experience; or a contractor with not less than 10 years' experience, 5 years of which shall have been in responsible charge of work.

[A] 108.2.2 Alternate members. The chief appointing authority shall appoint two alternate members who shall be called by the board chairman to hear appeals during the absence or disqualification of a member. Alternate members shall possess the qualifications required for board membership, and shall be appointed for 5 years or until a successor has been appointed.

[A] 108.2.3 Chairman. The board shall annually select one of its members to serve as chairman.

[A] 108.2.4 Disqualification of member. A member shall not hear an appeal in which that member has any personal, professional or financial interest.

[A] 108.2.5 Secretary. The chief administrative officer shall designate a qualified clerk to serve as secretary to the board. The secretary shall file a detailed record of proceedings in the office of the chief administrative officer.

[A] 108.2.6 Compensation of members. Compensation of members shall be determined by law.

[A] 108.3 Notice of meeting. The board shall meet upon notice from the chairman, within 10 days of the filing of an appeal or at stated periodic meetings.

[A] 108.4 Open hearing. Hearings before the board shall be open to the public. The appellant, the appellant's representative, the code official and any person whose interests are affected shall be given an opportunity to be heard.

[A] 108.4.1 Procedure. The board shall adopt and make available to the public through the secretary procedures under which a hearing will be conducted. The procedures shall not require compliance with strict rules of evidence, but shall mandate that only relevant information be received.

[A] 108.5 Postponed hearing. When five members are not present to hear an appeal, either the appellant or the appellant's representative shall have the right to request a postponement of the hearing.

[A] 108.6 Board decision. The board shall modify or reverse the decision of the code official by a concurring vote of three members.

[A] 108.6.1 Resolution. The decision of the board shall be by resolution. Certified copies shall be furnished to the appellant and to the code official.

[A] 108.6.2 Administration. The code official shall take immediate action in accordance with the decision of the board.

[A] 108.7 Court review. Any person, whether or not a previous party of the appeal, shall have the right to apply to the appropriate court to correct errors of law. Application for review shall be made in the manner and time required by law following the filing of the decision in the office of the chief administrative officer.

GENERAL COMPLIANCE

303.1.3 Covers. Outdoor heated pools and outdoor permanent spas shall be provided with a vapor-retardant cover or other *approved* vapor-retardant means in accordance with Section 104.11.

Exception: Where more than 70 percent of the energy for heating, computed over an operating season, is from a heat pump or solar energy source, covers or other vapor-retardant means shall not be required.

303.2 Portable spas. The energy consumption of electric-powered portable spas shall be controlled by the requirements of APSP 14.

303.3 Residential pools and permanent residential spas. The energy consumption of *residential* swimming pools and permanent *residential* spas shall be controlled in accordance with the requirements of APSP 15.

SECTION 304 FLOOD HAZARD AREAS

304.1 General. The provisions of Section 304 shall control the design and construction of pools and spas installed in *flood hazard areas*.

[BS] 304.2 Determination of impacts based on location. Pools and spas located in *flood hazard areas* indicated within the *International Building Code* or the *International Residential Code* shall comply with Section 304.2.1 or 304.2.2.

Exception: Pools and spas located in riverine *flood hazard areas* that are outside of designated floodways and pools and spas located in *flood hazard areas* where the source of flooding is tides, storm surges or coastal storms.

[BS] 304.2.1 Pools and spas located in designated floodways. Where pools and spas are located in designated floodways, documentation shall be submitted to the code official that demonstrates that the construction of the pools and spas will not increase the design flood elevation at any point within the jurisdiction.

[BS] 304.2.2 Pools and spas located where floodways have not been designated. Where pools and spas are located where design flood elevations are specified but floodways have not been designated, the applicant shall provide a floodway analysis that demonstrates that the proposed pool or spa and any associated grading and filling, will not increase the design flood elevation more than 1 foot (305 mm) at any point within the jurisdiction.

[BS] 304.3 Pools and spas in coastal high-hazard areas. Pools and spas installed in coastal high-hazard areas shall be designed and constructed in accordance with ASCE 24.

[BS] 304.4 Protection of equipment. Equipment shall be elevated to or above the design flood elevation or be anchored to prevent flotation and protected to prevent water from entering or accumulating within the components during conditions of flooding.

304.5 GFCI protection. Electrical equipment installed below the design flood elevation shall be supplied by branch circuits that have ground-fault circuit interrupter protection for personnel.

SECTION 305 BARRIER REQUIREMENTS

305.1 General. The provisions of this section shall apply to the design of barriers for restricting entry into areas having pools and spas. Where spas or hot tubs are equipped with a lockable safety cover complying with ASTM F1346 and swimming pools are equipped with a powered safety cover that complies with ASTM F1346, the areas where those spas, hot tubs or pools are located shall not be required to comply with Sections 305.2 through 305.7.

305.2 Outdoor swimming pools and spas. Outdoor pools and spas and indoor swimming pools shall be surrounded by a barrier that complies with Sections 305.2.1 through 305.7.

*** 305.2.1 Barrier height and clearances.** Barrier heights and clearances shall be in accordance with all of the following:

1. The top of the barrier shall be not less than 48 inches (1219 mm) above grade where measured on the side of the barrier that faces away from the pool or spa. Such height shall exist around the entire perimeter of the barrier and for a distance of 3 feet (914 mm) measured horizontally from the outside of the required barrier.
2. The vertical clearance between grade and the bottom of the barrier shall not exceed 2 inches (51 mm) for grade surfaces that are not solid, such as grass or gravel, where measured on the side of the barrier that faces away from the pool or spa.
3. The vertical clearance between a surface below the barrier to a solid surface, such as concrete, and the bottom of the required barrier shall not exceed 4 inches (102 mm) where measured on the side of the required barrier that faces away from the pool or spa.
4. Where the top of the pool or spa structure is above grade, the barrier shall be installed on grade or shall be mounted on top of the pool or spa structure. Where the barrier is mounted on the top of the pool or spa, the vertical clearance between the top of the pool or spa and the bottom of the barrier shall not exceed 4 inches (102 mm).

305.2.2 Openings. Openings in the barrier shall not allow passage of a 4-inch-diameter (102 mm) sphere.

305.2.3 Solid barrier surfaces. Solid barriers that do not have openings shall not contain indentations or protrusions that form handholds and footholds, except for normal construction tolerances and tooled masonry joints.

305.2.4 Mesh fence as a barrier. Mesh fences, other than chain link fences in accordance with Section 305.2.7, shall be installed in accordance with the manufacturer's instructions and shall comply with the following:

1. The bottom of the mesh fence shall be not more than 1 inch (25 mm) above the deck or installed surface or grade.
2. The maximum vertical clearance from the bottom of the mesh fence and the solid surface shall not permit

the fence to be lifted more than 4 inches (102 mm) from grade or decking.

3. The fence shall be designed and constructed so that it does not allow passage of a 4-inch (102 mm) sphere under any mesh panel. The maximum vertical clearance from the bottom of the mesh fence and the solid surface shall be not greater than 4 inches (102 mm) from grade or decking.
4. An attachment device shall attach each barrier section at a height not lower than 45 inches (1143 mm) above grade. Common attachment devices include, but are not limited to, devices that provide the security equal to or greater than that of a hook-and-eye-type latch incorporating a spring-actuated retaining lever such as a safety gate hook.
5. Where a hinged gate is used with a mesh fence, the gate shall comply with Section 305.3.
6. Patio deck sleeves such as vertical post receptacles that are placed inside the patio surface shall be of a nonconductive material.
7. Mesh fences shall not be installed on top of onground *residential* pools.

305.2.5 Closely spaced horizontal members. Where the barrier is composed of horizontal and vertical members and the distance between the tops of the horizontal members is less than 45 inches (1143 mm), the horizontal members shall be located on the pool or spa side of the fence. Spacing between vertical members shall not exceed $1\frac{3}{4}$ inches (44 mm) in width. Where there are decorative cutouts within vertical members, spacing within the cutouts shall not exceed $1\frac{3}{4}$ inches (44 mm) in width.

305.2.6 Widely spaced horizontal members. Where the barrier is composed of horizontal and vertical members and the distance between the tops of the horizontal members is 45 inches (1143 mm) or more, spacing between vertical members shall not exceed 4 inches (102 mm). Where there are decorative cutouts within vertical members, the interior width of the cutouts shall not exceed $1\frac{3}{4}$ inches (44 mm).

305.2.7 Chain link dimensions. The maximum opening formed by a chain link fence shall be not more than $1\frac{3}{4}$ inches (44 mm). Where the fence is provided with slats fastened at the top and bottom that reduce the openings, such openings shall be not greater than $1\frac{3}{4}$ inches (44 mm).

305.2.8 Diagonal members. Where the barrier is composed of diagonal members, the maximum opening formed by the diagonal members shall be not greater than $1\frac{3}{4}$ inches (44 mm). The angle of diagonal members shall be not greater than 45 degrees (0.79 rad) from vertical.

305.2.9 Clear zone. There shall be a clear zone of not less than 36 inches (914 mm) between the exterior of the barrier and any permanent structures or equipment such as pumps, filters and heaters that can be used to climb the barrier.

305.2.10 Poolside barrier setbacks. The pool or spa side of the required barrier shall be not less than 20 inches (508 mm) from the water's edge.

305.3 Gates. Access gates shall comply with the requirements of Sections 305.3.1 through 305.3.3 and shall be equipped to accommodate a locking device. Pedestrian access gates shall open outward away from the pool or spa, shall be self-closing and shall have a self-latching device.

305.3.1 Utility or service gates. Gates not intended for pedestrian use, such as utility or service gates, shall remain locked when not in use.

305.3.2 Double or multiple gates. Double gates or multiple gates shall have not fewer than one leaf secured in place and the adjacent leaf shall be secured with a self-latching device. The gate and barrier shall not have openings larger than $\frac{1}{2}$ inch (12.7 mm) within 18 inches (457 mm) of the latch release mechanism. The self-latching device shall comply with the requirements of Section 305.3.3.

* **305.3.3 Latches.** Where the release mechanism of the self-latching device is located less than 54 inches (1372 mm) from grade, the release mechanism shall be located on the pool or spa side of the gate not less than 3 inches (76 mm) below the top of the gate, and the gate and barrier shall not have openings greater than $\frac{1}{2}$ inch (12.7 mm) within 18 inches (457 mm) of the release mechanism.

* **305.4 Structure wall as a barrier.** Where a wall of a dwelling or structure serves as part of the barrier and where doors or windows provide direct access to the pool or spa through that wall, one of the following shall be required:

1. Operable windows having a sill height of less than 48 inches (1219 mm) above the indoor finished floor and doors shall have an alarm that produces an audible warning when the window, door or their screens are opened. The alarm shall be *listed* and *labeled* as a water hazard entrance alarm in accordance with UL 2017. In dwellings or structures not required to be Accessible units, Type A units or Type B units, the operable parts of the alarm deactivation switches shall be located 54 inches (1372 mm) or more above the finished floor. In dwellings or structures required to be Accessible units, Type A units or Type B units, the operable parts of the alarm deactivation switches shall be located not greater than 54 inches (1372 mm) and not less than 48 inches (1219 mm) above the finished floor.
2. A *safety cover* that is *listed* and *labeled* in accordance with ASTM F1346 is installed for the pools and spas.
3. An *approved* means of protection, such as self-closing doors with self-latching devices, is provided. Such means of protection shall provide a degree of protection that is not less than the protection afforded by Item 1 or 2.

* **305.5 Onground residential pool structure as a barrier.** An onground *residential* pool wall structure or a barrier mounted on top of an onground *residential* pool wall structure shall serve as a barrier where all of the following conditions are present:

1. Where only the pool wall serves as the barrier, the bottom of the wall is on grade, the top of the wall is not less than 48 inches (1219 mm) above grade for the

*
CONF.

entire perimeter of the pool, the wall complies with the requirements of Section 305.2 and the pool manufacturer allows the wall to serve as a barrier.

2. Where a barrier is mounted on top of the pool wall, the top of the barrier is not less than 48 inches (1219 mm) above grade for the entire perimeter of the pool, and the wall and the barrier on top of the wall comply with the requirements of Section 305.2.
3. Ladders or steps used as means of access to the pool are capable of being secured, locked or removed to prevent access except where the ladder or steps are surrounded by a barrier that meets the requirements of Section 305.
4. Openings created by the securing, locking or removal of ladders and steps do not allow the passage of a 4-inch (102 mm) diameter sphere.
5. Barriers that are mounted on top of onground residential pool walls are installed in accordance with the pool manufacturer's instructions.

305.6 Natural barriers. In the case where the pool or spa area abuts the edge of a lake or other natural body of water, public access is not permitted or allowed along the shoreline, and required barriers extend to and beyond the water's edge not less than 18 inches (457 mm), a barrier is not required between the natural body of water shoreline and the pool or spa.

305.7 Natural topography. Natural topography that prevents direct access to the pool or spa area shall include but not be limited to mountains and natural rock formations. A natural barrier approved by the governing body shall be acceptable provided that the degree of protection is not less than the protection afforded by the requirements of Sections 305.2 through 305.5.

**SECTION 306
DECKS**

306.1 General. The structural design and installation of decks around pools and spas shall be in accordance with the *International Residential Code* or the *International Building Code*, as applicable in accordance with Section 102.7 and this section.

306.2 Slip resistant. Decks, ramps, coping, and similar step surfaces shall be slip resistant and cleanable. Special features

in or on decks such as markers, brand insignias, and similar materials shall be slip resistant.

306.3 Step risers and treads. Step risers for decks of public pools and spas shall be uniform and have a height not less than 3³/₄ inches (95 mm) and not greater than 7¹/₂ inches (191 mm). The tread distance from front to back shall be not less than 11 inches (279 mm). Step risers for decks of residential pools and spas shall be uniform and shall have a height not exceeding 7¹/₂ inches (191 mm). The tread distance from front to back shall be not less than 10 inches (254 mm).

306.4 Deck steps handrail required. Public pool and spa deck steps having three or more risers shall be provided with a handrail.

306.5 Slope. The minimum slope of decks shall be in accordance with Table 306.5 except where an alternative drainage method is provided that prevents the accumulation or pooling of water. The slope for decks, other than wood decks, shall be not greater than 1/2 inch per foot (1 mm per 24 mm) except for ramps. The slope for wood and wood/plastic composite decks shall be not greater than 1/4 inch per 1 foot (1 mm per 48 mm). Decks shall be sloped so that standing water will not be deeper than 1/8 inch (3.2 mm), 20 minutes after the cessation of the addition of water to the deck.

306.6 Gaps. Gaps shall be provided between deck boards in wood and wood/plastic composite decks. Gaps shall be consistent with approved engineering methods with respect to the type of wood used and shall not cause a tripping hazard.

306.6.1 Maximum gap. The open gap between pool decks and adjoining decks or walkways, including joint material, shall be not greater than 3/4 inch (19.1 mm). The difference in vertical elevation between the pool deck and the adjoining sidewalk shall be not greater than 1/4 inch (6.4 mm).

306.7 Concrete joints. Isolation joints that occur where the pool coping meets the concrete deck shall be water tight.

306.7.1 Joints at coping. Joints that occur where the pool coping meets the concrete deck shall be installed to protect the coping and its mortar bed from damage as a result of the anticipated movement of adjoining deck.

306.7.2 Crack control. Joints in a deck shall be provided to minimize visible cracks outside of the control joints caused by imposed stresses or movement of the slab.

**TABLE 306.5
MINIMUM DRAINAGE SLOPES FOR DECK SURFACES**

| SURFACE | MINIMUM DRAINAGE SLOPE (INCH PER FOOT) |
|--|---|
| Carpet | 1/2 |
| Exposed aggregate | 1/3 |
| Textured, hand-finished concrete | 1/8 |
| Travertine/brick-set pavers, public pools or spas | 3/8 |
| Travertine/brick-set pavers, residential pools or spas | 1/8 |
| Wood | 1/8 |
| Wood/plastic composite | 1/8 |

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm.