



**BERKELEY COUNTY ENGINEERING AND
BUILDING INSPECTIONS**

400 West Stephen Street - Suite 202, Martinsburg, WV 25401

Telephone: 304-264-1966 Fax: 304-262-3128

Web Page: www.berkeleywv.org

SWIMMING POOL REQUIREMENTS AND CHECKLIST TO OBTAIN PERMIT

ALL REQUIREMENTS SUBJECT TO CHANGE

EFFECTIVE August 1, 2016

THE FOLLOWING ITEMS ARE REQUIRED:

1. Completed application to include Assessors/Planning Commission approval, Signed & Notarized owner affidavit (if applicant is not the owner).
2. Construction drawings, drawn to scale and of sufficient clarity to show location, nature and extent of work proposed and to show in detail that the work conforms to the provisions of the code. Show location of pool, fence/gates, and distance from property lines and building restriction lines.
3. **Above ground pools only** – Installation manual from manufacturer
4. **In-ground pools** – Plans signed and sealed by WV Registered Professional to include the following information: reinforcement size and spacing, thickness of walls and type of concrete, depth limits, details of built in steps, footings on decks of pools and hot tubs. Detailed drawings shall include a plan view and cross sections.
5. **Bottom drain and In-ground pools** - Piping detail for drains, suction inlet locations, skimmers and re-circulation lines. (Example for a bottom drain pool – Kayak)
6. **Bottom drain and In-ground pools** - Manufacturers specs for the entrapment protection device (drain cover)
7. **Bottom drain and In-ground pools** - Method of back-up vacuum relief device
 - a. Approved vacuum release system (manufacturer and model)
 - b. Approved vent piping
 - c. Other approved devices
8. **Bottom drain and In-ground pools** - Licensed pool installer is required to supply flow calculations per ANSI/APSP-7

THE FOLLOWING INSPECTIONS ARE REQUIRED:

Inground Swimming Pools:

1. Excavation
2. Electrical Bonding, if applicable
3. In-ground Panel Inspection (before concrete is poured)
4. Final Electrical (to be completed by same inspector as rough)
5. Final

Above Ground Swimming Pools:

1. Final Electrical (see list below for approved inspectors)
2. Final

****NOTE** If you will be building a deck for pool, you will need to include it with this application, including a detailed drawing. (Additional fee of .14/sq. ft.)**
Deck inspections: 1. Footing before pour 2. Post-pour

SCHEDULING INSPECTIONS:

To schedule an inspection, please call: 304-264-1966. Be prepared to provide the following:

1. Permit Number
2. Type of inspection
3. Requested inspection date
4. Name of person requesting inspection

*Inspections will not be scheduled without Permit Number

Note: Inspections will be completed in a timely manner, although no appointments are possible. The earliest date available will be given when scheduled.

APPROVED ELECTRICAL INSPECTORS: Rev: 8/4/2016

Middle Department Inspection Agency, Inc. Wes Clark, Inspector-----1-800-248-6342
 Shenandoah Valley Electrical Inspections John Elder, Inspector-----304-261-0243
 MEGCO Inspections, Inc. (RESIDENTIAL ONLY) Harry Blanco, Inspector-----304-790-1839
 MEGCO Inspections, Inc. Clifton Bennett, Inspector----304-788-9101
 On Point Electrical Inspections LLC-----John Talbott, Inspector-----304-886-3229
 Baker Electrical Inspection -----Christopher Baker, Inspector--304-671-4622

I HAVE READ AND UNDERSTAND THE ABOVE INFORMATION

 (Name) (Date)

Above Ground Pool	18' Round=\$76.61
\$41.00 base plus 0.14 sq. ft	24' Round=\$104.30
In-ground Pool	28' Round=\$127.16
\$41.00 base plus 0.14 sq. ft	

BARRIERS

Section 305 2015 ISPSC

305.2.1 An outdoor swimming pool, including an in-ground, above-ground or on-ground pool, hot tub or spa shall be provided with a barrier, which shall comply with the following:

1. The top of the barrier shall be at least 48 inches above *grade* measured on the side of the barrier, which faces away from the swimming pool or spa. The maximum vertical clearance between grade and the bottom of the barrier shall be 2 inches measured on the side of the barrier which faces away from the swimming pool or spa. Where the top of the pool structure is above grade, such as an above-ground pool, the barrier may be at ground level, such as the pool structure, or mounted on top of the pool structure. Where the barrier is mounted on top of the pool structure, the maximum vertical clearance between the top of the pool structure and the bottom of the barrier shall not exceed 4 inches.
2. Openings in the barrier shall not allow passage of a 4-inch diameter sphere.
3. Solid barriers which do not have openings, such as a masonry or stone wall, shall not contain indentations or protrusions except for normal construction tolerances and tooled masonry joints.
4. 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, the horizontal members shall be located on the swimming pool side of the fence. Spacing between vertical members shall not exceed 1 ¾ inches in width. Where there are decorative cutouts within vertical members, spacing within the cutouts shall not exceed 1 ¾ inches in width.
5. Where the barrier is composed of horizontal and vertical members and the distance between the tops of the horizontal members is 45 inches or more, spacing between vertical members shall not exceed 4 inches. Where there are decorative cutouts within vertical members, spacing within the cutouts shall not exceed 1 ¾ inches in width.
6. Maximum mesh size for chain link fences shall be 2 ¼ inch square unless the fence has slats fastened at the top or the bottom which reduce the openings to not more than 1 ¾ inches.
7. Where the barrier is composed of diagonal members, such as a lattice fence, the maximum opening formed by the diagonal members shall not be more than 1 ¾ inches. The angle of the diagonal members shall not be greater than 45 degrees from the vertical.
8. Access gates shall comply with the requirements of Section 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 and shall be self-closing and have a self-latching device. Gates other than pedestrian access gates shall have a self-latching device. Where the release mechanism of the self-latching device is located less than 54 inches from grade, the release mechanism and openings shall comply with the following:

- 8.1. The release mechanism shall be located on the pool side of the gate at least 3 inches below the top of the gate; and
- 8.2. The gate and barrier shall have no opening larger than ½ inch within 18 inches of the release mechanism
9. 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 through the wall, one of the following conditions shall be met:
 - 10.
 - 10.1. The pool shall be equipped with a powered safety cover in compliance with ASTM F 1346;
or
 - 10.2. Doors with direct access to the pool through that wall shall be equipped with an alarm which produces an audible warning when the door and/or its screen, if present, are opened. The alarm shall be listed and labeled in accordance with UL 2017. The deactivation switch(es) shall be located at least 54 inches above the threshold of the door;
or
 - 10.3. Other means of protection, such as self-closing doors with self-latching devices, which are approved by the governing body, shall be acceptable as long as the degree of protection afforded is not less than the protection afforded by Item 9.1 or 9.2 described above.
11. Where an above-ground pool structure is used as a barrier or where the barrier is mounted on top of the pool structure, and the means of access is a ladder or steps:
 - 11.1. The ladder or steps shall be capable of being secured, locked or removed to prevent access; or
 - 11.2. The ladder or steps shall be surrounded by a barrier which meets the requirements of Section 305.2. When the ladder or steps are secured, locked or removed, any opening created shall not allow the passage of a 4- inch diameter sphere.
12. All walls surrounding an indoor swimming pool shall comply with Item 9.
13. Barriers shall be located so as to prohibit permanent structures, equipment or similar objects from being used to climb the barriers.
14. Swimming Pools with a powered safety cover which complies with ASTM F 1346, as listed in Section 305, shall be exempt from these requirements.
15. Spas and hot tubs shall have a lockable safety cover that complies with ASTM F1346.

INSPECTIONS

Please note that the primary purpose of the pool inspection process is to assure that safety requirements have been met, including verifying that the electrical installation has been completed, inspected and approved, and that the swimming pool barrier requirements of the code have also been satisfied by a permanent pool barrier.

Swimming pools shall not be used until all required inspections of the pool including pool barrier and its associated electrical equipment have been approved.

Rev: 7/29/16, 9/1/16



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CERTIFICATE OF COMPLIANCE

The undersigned certifies that all construction involving the installation of the residential swimming pool will be in full compliance of the Berkeley County Swimming Pool Packet.

The undersigned further certifies that all necessary inspections will be scheduled in accordance with the schedule set forth in the booklet and that the Department of Building Inspections will be notified to perform the final inspection prior to the use of the pool. Failure to contact this office for any inspections within six (6) months of permit issuance or prior inspections will result in the permit being voided and an unsafe structure sign being placed on work already completed. This sign will not be removed until a new permit has been issued. The undersigned also certifies that the swimming pool will not be used or occupied until a final inspection has been approved. If the pool is occupied prior to all the required inspections, an unsafe structure sign will be placed on the structure until the final inspection is approved. Such unsafe structure signs are not to be removed by anyone other than Berkeley County Engineering staff. The undersigned acknowledges that appropriate legal action can be taken. Please note that once a criminal warrant has been filed by our office, we will be unable to drop said charges.

OWNER:

Property Owner's Name (Please Print)

Property Owner's Signature

Rev: 10/24/12



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Certificate of Occupancy

_____ Fax Certificate of Occupancy \$30.00

Fax Number _____

Will be issued once all paper work is completed including final electric.

_____ Expedited Certificate of Occupancy \$89.00

Phone Number _____

Will be issued once all paper work is completed including final electric.

All other Certificate of Occupancies will be mailed.

_____ No Certificate of Occupancy required for non habitable spaces such as decks, storage buildings, pools, etc.

No change in options after Permit is issued.

Signature

Date

DIRECTIONS

(TO BE FILLED IN COMPLETELY BEFORE PERMIT WILL BE ISSUED)

LAST NAME OF OWNER: _____

LOCATION OF PROJECT: **SUBDIVISION NAME:** _____

LOT NUMBER: _____

DIRECTIONS: _____

(Please note - Inspectors cannot inspect what they cannot find, please make directions clear)

Floodplain

Any structure located within the floodplain, that is to be constructed, added to, altered or otherwise changed requires a WV design professional.

Refund Policy

Voided ApplicationLose Base Fee + grading fee + plan review if already been reviewed.

Voided PermitLose Base Fee + grading fee + % lost will depend on inspections already completed + .06/sq ft for plan review
.09/sq ft for commercial plan review

Application or Permit will be voided if no activity for 180 days no refund will be made.

Signature

Date

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304-264-1966**

ASSESSORS STATEMENT

I, _____, am applying for a building permit and need the following information to accommodate the application being submitted to Berkeley County Engineering:

Property Owner as of _____ TY: _____

Property Use: Residential Commercial Agriculture

District: _____, Tax Map: _____, Parcel Number: _____

Lot #: _____ Subdivision Name: _____

Signed: _____ Date: _____
(Assessors Office Representative)

PLANNING COMMISSION STATEMENT

*****The Berkeley County Planning Commission must approve all structures PRIOR to submitting an application for a building permit to ensure compliance with the Berkeley County Subdivision Regulations.***

_____ Structure complies with Berkeley County Subdivision Regulations

_____ Structure to be regulated by height/noise ordinance Yes or No (Circle One)

_____ Is Structure in floodplain? Yes or No (Circle One)

The Berkeley County Planning Commission has reviewed and approved the above listed property and has no objections to the issuance of a building permit for said property.

Signed: _____ Date: _____
(Planning Commission Representative)



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OWNER AFFIDAVIT

I, _____ understanding the importance and solemnity of the oath, do hereby swear and affirm that I am the current legal title owner of the property for which this permit is requested or that I am legally appointed agent or power of attorney for such owner.

Accordingly, I give my permission for _____ to obtain the needed permit(s).

Owner Signature

Owner Signature

Date

MUST BE NOTARIZED

STATE OF _____

COUNTY OF _____

I hereby certify that on this _____ day of _____, 20_____, before the subscribed, a Notary Public of the State of _____, and for the County of _____, _____ for the owners (Name)

did acknowledge the foregoing instrument to be his/her Act.

In testimony whereof,

I have affixed my official seal.

_____ My Commission Expires: _____

NOTARY PUBLIC

SEAL:



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SWIMMING POOL APPLICATION

Applicant Information:

Is owner applicant? _____

NOTE: If applicant is not the property owner, the property owner must complete attached affidavit

First Name: _____ Last Name: _____

Mailing Address: _____
(Street # and Name or P.O. Box #)

(City) (State) (Zip code)

Phone Number: _____ Fax Number: _____ Email address: _____

Property Owner Information:

First Name: _____ Last Name: _____

Mailing Address: _____
(Street # and Name or P.O. Box #)

(City) (State) (Zip code)

Phone Number: _____

Pool Information:

Physical Address: _____

Size of Pool: _____ Sq. Ft.: _____ Pool: ___ Inground or ___ above ground

If pool is above ground; What is height of pool walls? _____ Are there bottom drains: _____

Year of Pool: _____ Make & Model: _____ Estimated Value: _____

Will you be building a deck for pool? _____ Size of deck: _____ x _____ = _____
(Length) (Width) (Square Feet)

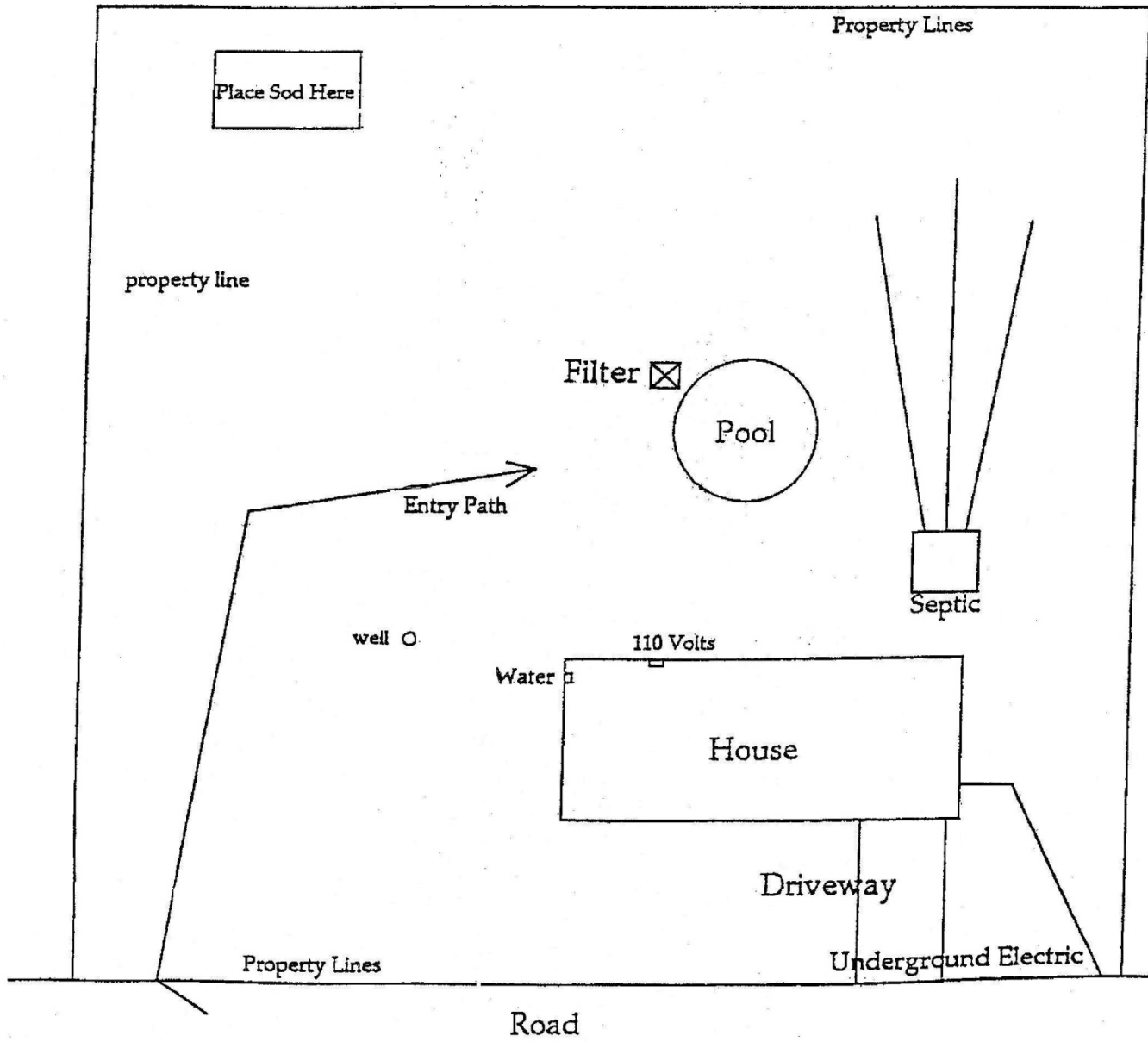
Electrical Inspector: _____ Pool Installers Name: _____ WV Contractors License # _____

I HEREBY CERTIFY TO THE BEST OF MY KNOWLEDGE THAT THE INFORMATION ON THIS APPLICATION IS TRUE AND CORRECT.

Applicant Signature

Date

Location Of Pool (Example)



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**NOTE TO OWNERS OF PROPERTY WITH
RESTRICTIVE COVENANTS:**

Your property may be subject to certain restrictive or private covenants especially if you reside in a subdivision. If so, be advised that the offices of Berkeley County do not have jurisdiction over the provisions of those covenants. They are enforced only by the Homeowners' Association. The county enforces only its own rules and regulations.

ANSI/ASP-7 2006 Specifies three methods for determining the maximum system flow rate. The following simplified TDH calculation is one of the methods specified.

Simplified Total Dynamic Head (TDH) Calculation Worksheet

TDH Calculation Options
 For each pump
 Check One.
 Simplified Total Dynamic Head (STDH)
 Complete STDH Worksheet – Fill in all blanks
 Total Dynamic Head (TDH)
 Complete Program or other calcs. Fill in required blanks on worksheet & attach calculations.

Determine Maximum System Flow Rate:
 Minimum Flow Rate Required: 35 gpm Per Skimmer

- Calculate Pool Volume: $\frac{\text{Surf. Area}}{\text{Avg. Depth}} \times 7.48 \text{ (gal./cubic foot)} = \frac{\text{Vol. in gal.}}{\text{Vol. in gal.}}$
- Determine preferred Turnover Time in hours: $\frac{\text{Hours}}{\text{Turnover in Min.}} \times 60 \text{ (min./hr.)} = \frac{\text{Turnover in Min.}}{\text{Turnover in Min.}}$
- Determine Max Flow Rate: $\frac{\text{Vol. in gal.}}{\text{Turnover Mins.}} = \frac{\text{Pool Flow Rate}}{\text{Pool Flow Rate}} + \frac{\text{Feature Flow Rate}}{\text{Feature Flow Rate}} = \frac{\text{System Flow Rate}}{\text{System Flow Rate}}$
- Spa Jets: $\frac{\text{No. of Jets}}{\text{Jet Flow}} \times \text{gpm per jet} = \frac{\text{Total Jet Flow Rate}}{\text{Total Jet Flow Rate}} \text{ flow rate.}$

(For single pump pool/spa combo, use the higher of No. 3 or No. 4 in the following calculations for the pool & spa)

Determine Pipe Sizes:

Branch Piping to be _____ inch to keep velocity @ 6 fps max. at _____ gpm Maximum System Flow Rate.
 Trunk Piping to be _____ inch to keep velocity @ 8 fps max. at _____ gpm Maximum System Flow Rate.
 Return Piping to be _____ inch to keep velocity @ 10 fps max. at _____ gpm Maximum System Flow Rate.

Determine Simplified TDH:

- Distance from pool to pump in feet: _____
- Friction loss (in suction pipe) in _____ inch pipe per 1 ft. @ _____ gpm = _____ (from pipe flow/friction loss chart)
- Friction loss (in return pipe) in _____ inch pipe per 1 ft. @ _____ gpm = _____ (from pipe flow/friction loss chart)
- $\frac{\text{Length of Suct. Pipe}}{\text{Length of Suct. Pipe}} \times \frac{\text{Ft of head/ 1 ft of Pipe}}{\text{Ft of head/ 1 ft of Pipe}} = \frac{\text{TDH Suct. Pipe}}{\text{TDH Suct. Pipe}}$
- $\frac{\text{Length of Return Pipe}}{\text{Length of Return Pipe}} \times \frac{\text{Ft of head/ 1 ft of Pipe}}{\text{Ft of head/ 1 ft of Pipe}} = \frac{\text{TDH Return Pipe}}{\text{TDH Return Pipe}}$

Flow and Friction Loss Per Foot					
Schedule 40 PVC Pipe					
Pipe Size	Velocity – Feet Per Second				
	6 fps		8 fps		10 fps
1"	16gpm	0.14'	21gpm	0.23'	26gpm 0.35'
1.5"	37gpm	0.08'	50gpm	0.14'	62gpm 0.21'
2"	62gpm	0.06'	82gpm	0.10'	103gpm 0.16'
2.5"	88gpm	0.05'	117gpm	0.09'	146gpm 0.13'
3"	138gpm	0.04'	181gpm	0.07'	227gpm 0.10'
4"	234gpm	0.03'	313gpm	0.05'	392gpm 0.07'
6"	534gpm	0.02'	712gpm	0.03'	

TDH in Piping: _____
 Filter loss in TDH (from filter data sheet): _____
 Heater loss in TDH (from heater data sheet): _____
 Total all other loss: _____
 Total Simplified TDH: _____

Selected Pump and Main Drain Cover:

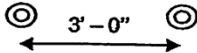

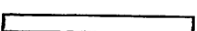

Pump selection _____ using pump curve for Simplified
(Pump Model and Size in Horsepower)
TDH & System Flow Rate.

Main Drain Cover _____ (System Flow Rate must not
(Make and Model)
exceed approved cover flow rate)

Notes: Minimum system flow based on min. flow per skimmer of 35 gpm.

Determine the Number and Type of Required In-Floor Suction Outlets:

Check all that apply.

-  2 _____ suction outlets @ _____ gpm max. flow (see note 2).
-  3 _____ suction outlets @ _____ gpm max. flow (see note 3).
-  Channel Drain @ 316 gpm max. flow rate.
-  Channel Drain @ 217 gpm w/ 2 ports & 278 gpm w/ 3 ports (see note 4).

Notes:

1. If a variable speed pump is used, use the max. pump flow in calculations.
2. For side wall drains, use appropriate side wall drain flow as published by manufacturer.
3. Insert manufacturer's name and approved maximum flow.
4. See installation instructions for number of ports to be used.
5. In-Floor suction outlet cover/grate must conform to most recent edition of ASME/ANSI A112.19.8 and be embossed with that edition approval.
6. Pump & Filter make, model and location cannot change without submitting a revised plan and TDH worksheet.

Contractor Name

Contractor Signature

Contractor License Number

Date

Telephone Number

Email Address