



**REVIEW BY FORT BEND COUNTY
COMMISSIONERS COURT**

**Fort Bend County
Engineering Department**
301 Jackson Suite 401
Richmond, Texas 77469
281.633.7500
Permits@fortbendcountytexas.gov

- Right of Way Permit
- Commercial Driveway Permit

Permit No: 2017-12178

Applicant: CenterPoint Energy

Job Location Site: Benton Road at Kennedia Drive, Richmond, TX 77469

Bond No. **Date of Bond:** 4/28/1988 **Amount:** \$50,000.00

The above applicant came to make use of certain Fort Bend County property subject to, "The Order Regulating the Laying, Construction, Maintenance, and Repair of Buried Cables, Conduits, and Pole Lines, In, Under, Across or Along Roads, Streets, Highways, and Drainage Ditches in Fort Bend County, Texas, Under the Jurisdiction of the Commissioners Court of Fort Bend County, Texas," as passed by the Commissioners Court of Fort Bend County, Texas, of the Minutes of the Commissioners Court of Fort Bend County, Texas, to the extent that such order is not inconsistent with Chapter 181, Vernon's Texas Statutes and Codes Annotated.

Notes:

1. Evidence of review by the Commissioners Court must be kept on the job site and failure to do so constitutes grounds for job shutdown.
2. Written notices are required:
 - a. 48 hours in advance of construction start up, and
 - b. When construction is completed and ready for final inspection, submit notification to Permit Administrator thru MyGovernmentOnline.org portal.
3. This permit expires one (1) year from date of permit if construction has not commenced.

On this 14th day of March, 2017, Upon Motion of Commissioner Meyers, seconded by Commissioner Morales, duly put and carried, it is ORDERED, ADJUDGED AND DECREED that said notice of said above purpose is hereby acknowledged by the Commissioners Court of Fort Bend County, Texas, and that said notice be placed on record according to the regulation order thereof.

Signature

Presented to Commissioners Court and approved.

By: Charles O. Ay
County Engineer

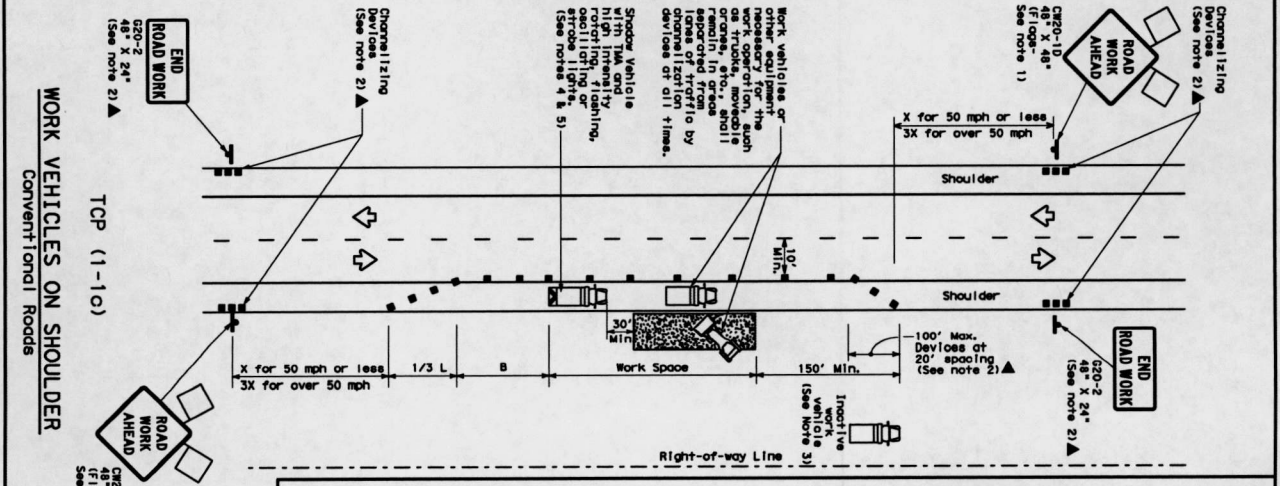
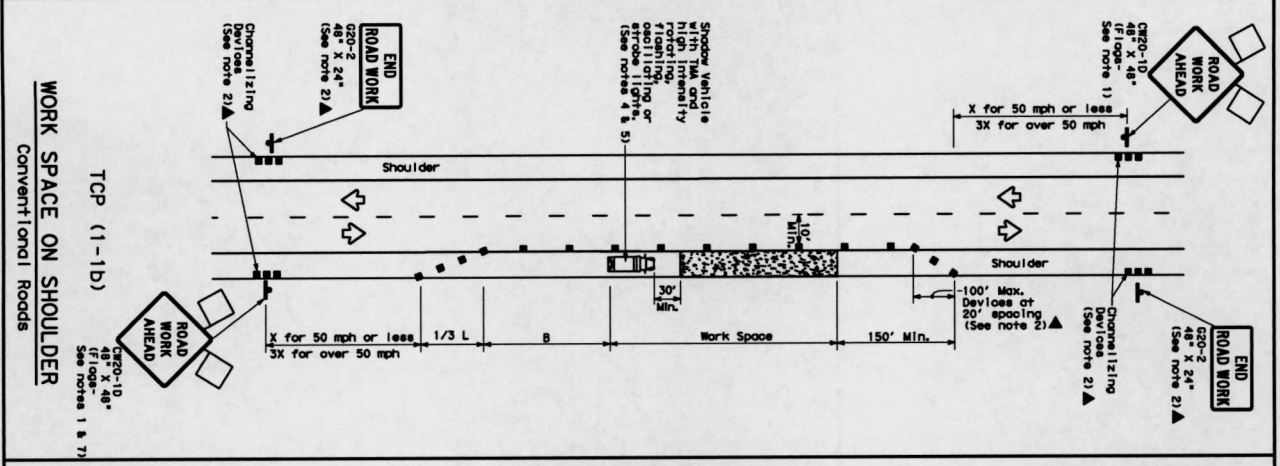
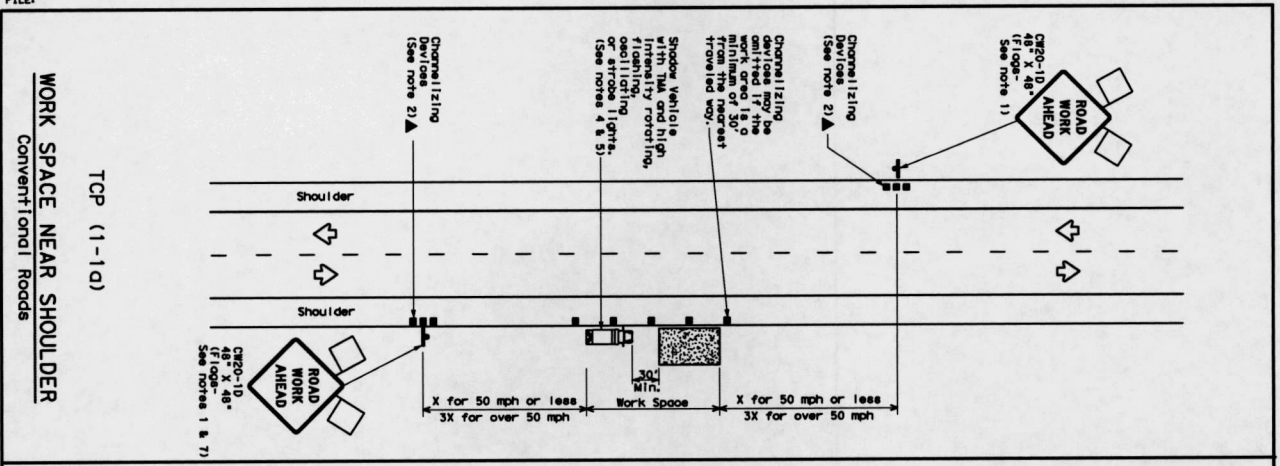
Date Recorded 3-16-2017 Comm. Court No. 11A

By: N/A
Drainage District Engineer/Manager

Clerk of Commissioners Court
By: Aminda Wilho
Deputy

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DATE: FILE:



LEGEND

| | | | |
|--|--------------------------------------|--|--|
| | Type 3 Barricade | | Channelizing Devices |
| | Heavy Work Vehicle | | Truck Mounted Attenuator (TMA) |
| | Trailer Mounted Flashing Arrow Board | | Portable Channelized Message Sign (PCMS) |
| | Sign | | Traffic Flow |
| | Flag | | Flagpole |

GENERAL NOTES

- Flags attached to signs where shown are REQUIRED.
- All traffic control devices illustrated are REQUIRED, except those denoted with the triangle symbol may be omitted when stored elsewhere in the plan, or for traffic maintenance work, when approved by the Engineer.
- Insert the work vehicles or other equipment should be parked near the right-of-way line and not parked on the paved shoulder.
- A Shadow Vehicle with a TMA should be used anytime it can be positioned 35 to 100 feet in advance of the area of crew exposure without adversely impacting traffic flow. The Shadow Vehicle should be positioned in advance of the work area and should be used to maintain traffic control to remain in place, Type 3 Barricades or other channelizing devices may be substituted for the Shadow Vehicle and TMA.
- Additional Shadow Vehicles with TMA may be positioned off the paved shoulder in advance of the work area.
- See TD15-11 for shoulder work on divided highways, expressways and freeways.
- CP21-5 "SHOULDER WORK" signs may be used in place of C20-10 "ROAD WORK AHEAD" signs for shoulder work on conventional roadways.

For construction or maintenance contract work, specific product requirements for shadow vehicles can be found in the contract, Specifications, Signs and Traffic Manual.

TYPICAL USAGE

| MOBILE | SHORT TERM STATIONARY | INTERMEDIATE TERM STATIONARY | LONG TERM STATIONARY |
|--------------------------|--------------------------|------------------------------|--------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

TABLE 1

| Paired Spacing of Devices | Minimum Taper Length | Suggested Maximum Spacing of Devices | Minimum Sign Spacing | Suggested Paired Spacing of Devices |
|---------------------------|----------------------|--------------------------------------|----------------------|-------------------------------------|
| 30' | 150' | 180' | 30' | 120' |
| 35' | 205' | 225' | 35' | 160' |
| 40' | 265' | 295' | 40' | 240' |
| 45' | 450' | 495' | 45' | 320' |
| 50' | 500' | 550' | 50' | 400' |
| 55' | 550' | 605' | 55' | 500' |
| 60' | 600' | 660' | 60' | 600' |
| 65' | 650' | 715' | 65' | 700' |
| 70' | 700' | 770' | 70' | 800' |
| 75' | 750' | 825' | 75' | 900' |

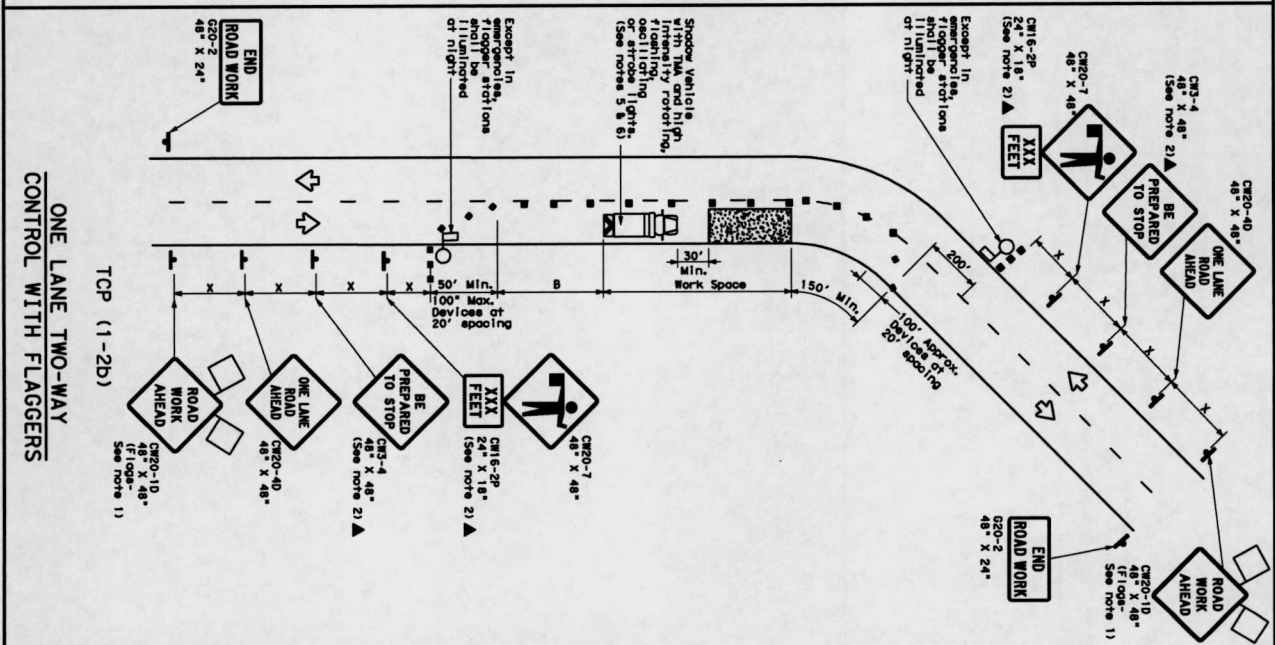
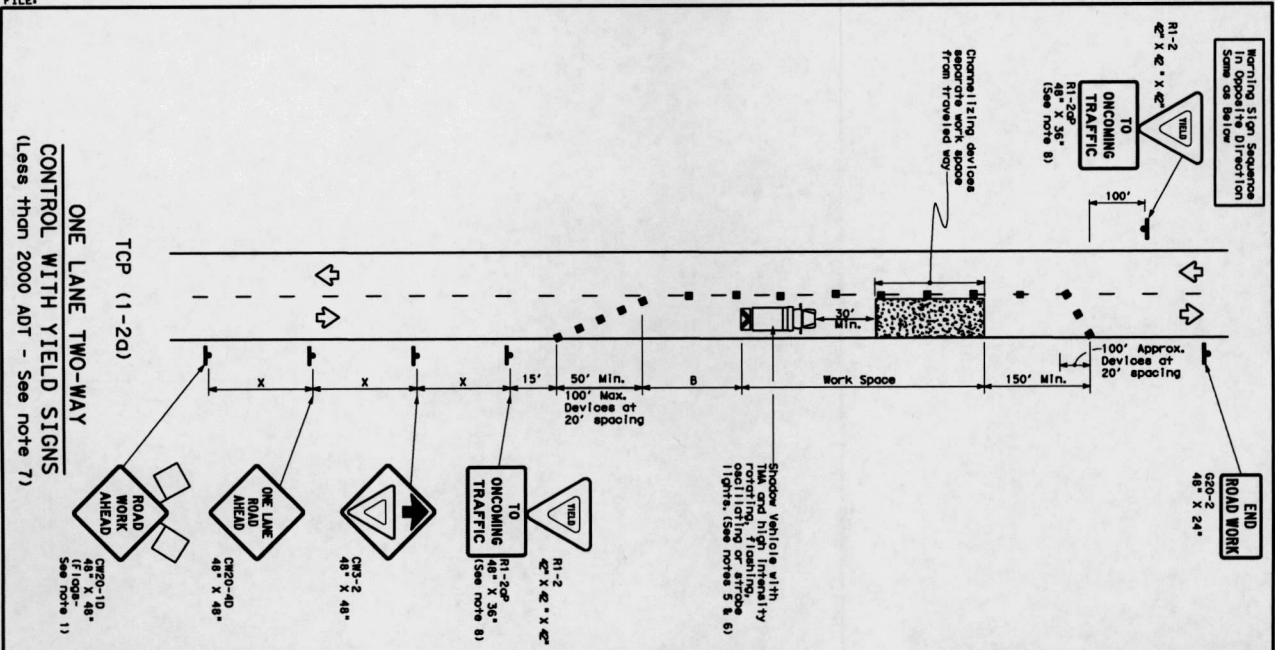
* Conventional Roads Only
** Taper lengths have been rounded off.
L=Length of Taper (FT); W=Width of Taper (FT); S=Paired Speed (mph)

Texas Department of Transportation
Traffic Operations Division

TRAFFIC CONTROL PLAN
CONVENTIONAL ROAD SHOULDER WORK

TCP (1-1)-12

DATE: _____
FILE: _____



LEGEND

| | | | |
|--------|----------------------|---|---|
| ██████ | Type 3 Barricade | ■ | Chromalizing devices |
| ▭ | Heavy Work Vehicle | ▭ | Truck Mounted Attenuator (TMA) |
| ▭ | Traffic Arrow Board | ▭ | Portable Changeable Message Sign (PCMS) |
| ▭ | Flashing Arrow Board | ▭ | Message Sign (PMS) |
| ▭ | Sign | ▭ | Traffic Flow |
| ▭ | Flag | ▭ | Flagger |

GENERAL NOTES

- Flares attached to signs where shown are REQUIRED.
- All traffic control devices illustrated are REQUIRED, except those denoted with the triangle symbol may be omitted when stated elsewhere in the plan, or for routine maintenance work, when approved by the Engineer.
- The CS3-4, BE PREPARED TO STOP sign may be replaced after the CW20-10, ONE LANE ROAD AHEAD sign, but proper sign spacing shall be maintained.
- ROAD WORK AHEAD sign for proper sign spacing shall be maintained.
- Shadow Vehicle with TMA and Night Intensity Illuminating or strobe lights shall be used if on-site warning ahead of the flagger or R1-2, YIELD sign is less than 1500 feet. A shadow vehicle with a TMA should be used anytime it can be positioned 50 to 100 feet in advance of the end of crew exposure without adversely affecting the performance or quality of the work. If workers are no longer present but road or work conditions require that the shadow vehicle be maintained for the Shadow Vehicle and TMA chromalizing devices may be substituted for the Shadow Vehicle and TMA chromalizing devices.
- Additional Shadow Vehicles with TMA may be positioned off the paved surface, next to those shown in order to protect wider work spaces.

TCP (1-20)

- R1-2 "YIELD" sign traffic control may be used on projects with approaches that have adequate sight distance. For projects in urban areas, work spaces should be no longer than one half city block. In rural areas on roadways with less than 2000 ADT, work spaces should be no longer than 400 feet.
- R1-2 "YIELD" sign with R1-20P "TO ONCOMING TRAFFIC" plaque shall be placed on a support of 15' not minimum mounting height.

TCP (1-20)

- Flagger should use the way radios or other methods of communication to control traffic.
- Length of work space should be based on the ability of flaggers to communicate. Flaggers should be positioned in the center of the work space. Flagging distances should be increased in order to maintain adequate stopping sight distance to the flagger and a queue of stopped vehicles (see table above).
- Chromalizing devices on the center-line may be omitted when a pilot or lead flagger is used and approved by the Engineer.
- Flagger should use 24" x 30" x 24" paddles to control traffic. Flags should be limited to emergency situations.

TCP (1-20)

For construction or maintenance control work, spacing to protect work vehicles can be found in the project GENERAL NOTES. For flagging, signs and Traffic Handing.

Texas Department of Transportation
Traffic Operations Division

TRAFFIC CONTROL PLAN
ONE-LANE TWO-WAY
TRAFFIC CONTROL
TCP (1-2) - 12

| | | | | | |
|------|------|-----|------|----|-----|
| 4-90 | 1-12 | REV | DATE | BY | CHK |
| 2-94 | 1-12 | REV | DATE | BY | CHK |
| 1-91 | 1-12 | REV | DATE | BY | CHK |
| 1-82 | 1-12 | REV | DATE | BY | CHK |

* Conventional Roads Only

** Typical lengths have been rounded off.

*** Length of Upper (U) Section or Lower (L) Section (See Note 1)

| Vehicle | Formula | Minimum Tail-to-tail Lengths | Suggested Minimum Chromalizing Device Spacing | Minimum Sign Length/Interval Spacing | Suggested Spacing |
|---------|-------------|------------------------------|---|--------------------------------------|-------------------|
| 12' | $1.5V + 12$ | 150' | 180' | 30' | 120' |
| 15' | $1.5V + 15$ | 180' | 210' | 30' | 150' |
| 18' | $1.5V + 18$ | 210' | 240' | 30' | 180' |
| 20' | $1.5V + 20$ | 240' | 270' | 30' | 210' |
| 22' | $1.5V + 22$ | 270' | 300' | 30' | 240' |
| 24' | $1.5V + 24$ | 300' | 330' | 30' | 270' |
| 26' | $1.5V + 26$ | 330' | 360' | 30' | 300' |
| 28' | $1.5V + 28$ | 360' | 390' | 30' | 330' |
| 30' | $1.5V + 30$ | 390' | 420' | 30' | 360' |
| 32' | $1.5V + 32$ | 420' | 450' | 30' | 390' |
| 34' | $1.5V + 34$ | 450' | 480' | 30' | 420' |
| 36' | $1.5V + 36$ | 480' | 510' | 30' | 450' |
| 38' | $1.5V + 38$ | 510' | 540' | 30' | 480' |
| 40' | $1.5V + 40$ | 540' | 570' | 30' | 510' |
| 42' | $1.5V + 42$ | 570' | 600' | 30' | 540' |
| 44' | $1.5V + 44$ | 600' | 630' | 30' | 570' |
| 46' | $1.5V + 46$ | 630' | 660' | 30' | 600' |
| 48' | $1.5V + 48$ | 660' | 690' | 30' | 630' |
| 50' | $1.5V + 50$ | 690' | 720' | 30' | 660' |
| 52' | $1.5V + 52$ | 720' | 750' | 30' | 690' |
| 54' | $1.5V + 54$ | 750' | 780' | 30' | 720' |
| 56' | $1.5V + 56$ | 780' | 810' | 30' | 750' |
| 58' | $1.5V + 58$ | 810' | 840' | 30' | 780' |
| 60' | $1.5V + 60$ | 840' | 870' | 30' | 810' |
| 62' | $1.5V + 62$ | 870' | 900' | 30' | 840' |
| 64' | $1.5V + 64$ | 900' | 930' | 30' | 870' |
| 66' | $1.5V + 66$ | 930' | 960' | 30' | 900' |
| 68' | $1.5V + 68$ | 960' | 990' | 30' | 930' |
| 70' | $1.5V + 70$ | 990' | 1020' | 30' | 960' |
| 72' | $1.5V + 72$ | 1020' | 1050' | 30' | 990' |
| 74' | $1.5V + 74$ | 1050' | 1080' | 30' | 1020' |
| 76' | $1.5V + 76$ | 1080' | 1110' | 30' | 1050' |
| 78' | $1.5V + 78$ | 1110' | 1140' | 30' | 1080' |
| 80' | $1.5V + 80$ | 1140' | 1170' | 30' | 1110' |
| 82' | $1.5V + 82$ | 1170' | 1200' | 30' | 1140' |
| 84' | $1.5V + 84$ | 1200' | 1230' | 30' | 1170' |
| 86' | $1.5V + 86$ | 1230' | 1260' | 30' | 1200' |
| 88' | $1.5V + 88$ | 1260' | 1290' | 30' | 1230' |
| 90' | $1.5V + 90$ | 1290' | 1320' | 30' | 1260' |