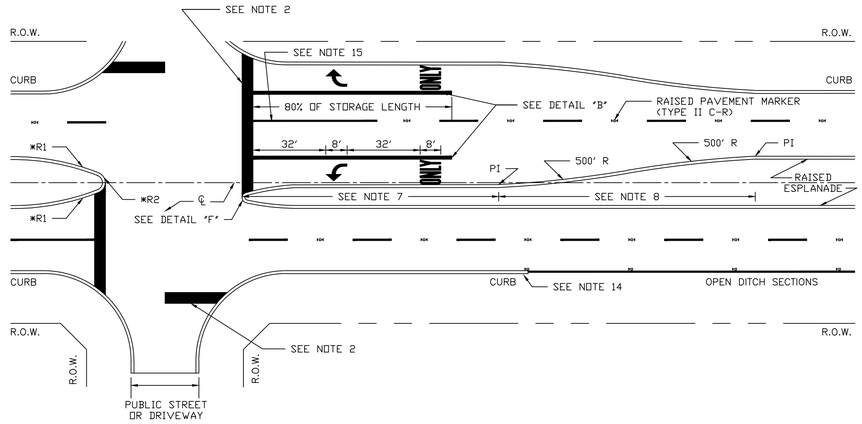
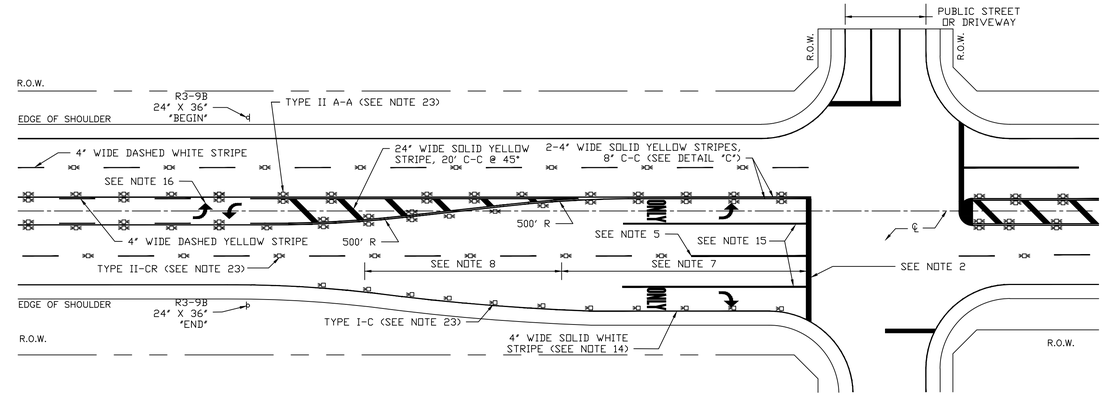
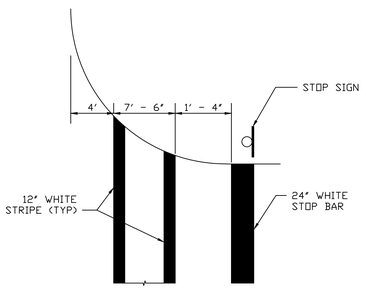


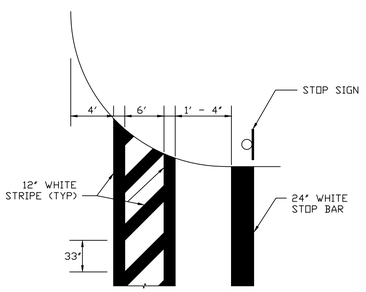
TYPICAL RAISED ESPLANADE SECTION



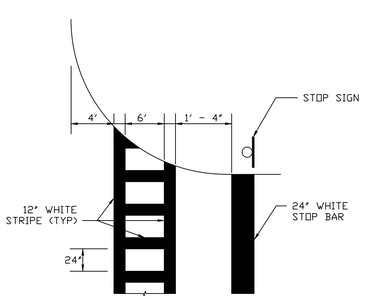
TYPICAL TWO-WAY LEFT TURN SECTION



STANDARD TYPE



SCHOOL ZONE TYPE 1

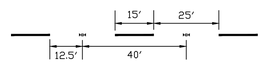


SCHOOL ZONE TYPE 2

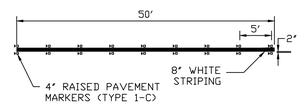
TYPICAL CROSSWALK PLACEMENT

ESPLANADE	*R1	*R2
<8'	N/A	W/2
8'-38'	90'	W/5
>38'	N/A	15'

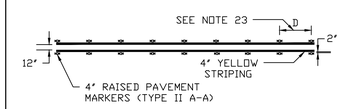
RADIUS DIMENSIONS



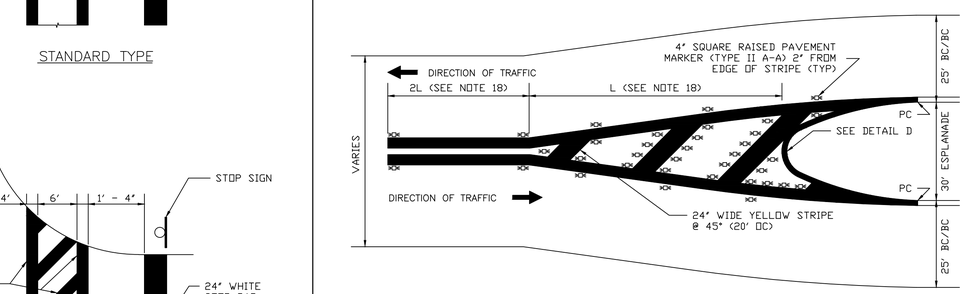
DETAIL A



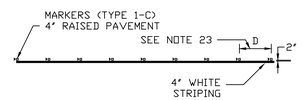
DETAIL B



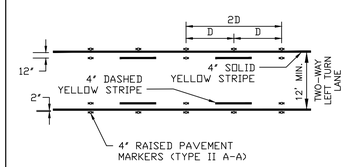
DETAIL C



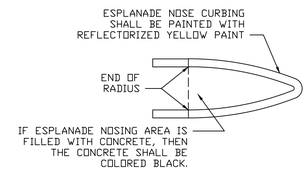
UNDIVIDED STREET TO ESPLANADE SECTION



DETAIL D



DETAIL E



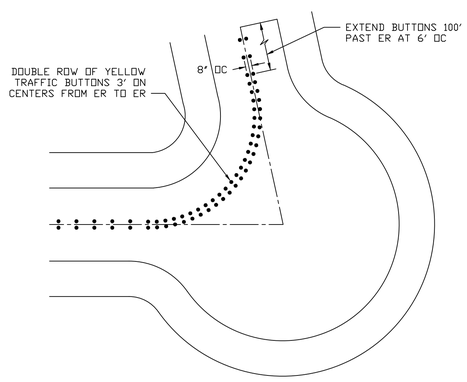
ESPLANADE NOSING PLAN VIEW

TYPICAL CURB SECTION

DETAIL F

NOTE:

1. PAINT FROM THE BACK OF THE CURB TO THE GUTTER LINE.



TYPICAL BUTTON DETAIL FOR CURVES ≥ 60°

PERMANENT PAVEMENT MARKING CONSTRUCTION NOTES:

1. IF A CROSSWALK IS REQUIRED, SEE TYPICAL CROSSWALK PLACEMENT DETAIL AND CONFIRM WITH CITY TYPE TO BE USED AND LOCATION OF CROSSWALK.
2. ALL INTERSECTIONS WHERE A STOP SIGN/SIGNAL IS LOCATED SHALL HAVE A STOP BAR. STOP BARS SHALL BE LOCATED 1'-4" BEHIND CROSSWALKS, WHERE PEDESTRIAN CROSSWALKS ARE PROVIDED. STOP BARS SHALL BE 24" WIDE SOLID WHITE STRIPE EXTENDING ACROSS ALL APPROACH LANES TO INDICATE THE POINT AT WHICH THE STOP IS INTENDED OR REQUIRED TO BE MADE.
3. CROSSWALKS SHALL BE A MINIMUM INSIDE WIDTH OF 5'. AT LOCATIONS WHERE ADDITIONAL VISIBILITY IS REQUIRED, WHERE TRAFFIC CONTROL DEVICES ARE NOT PRESENT, CONTINENTAL TYPE CROSSWALKS SHALL BE USED.
4. NOT ALL INTERSECTIONS ARE FOUR-WAY STOP CONTROLLED. AS SUCH, NOT ALL STRIPING AND MARKINGS MAY APPLY.
5. ON APPROACH TO INTERSECTION – BEGINNING WITH STOP BAR, INSTALL A 4" WIDE SOLID WHITE LINE FOR 50' FROM BACK OF STOP BAR, SKIP 25' AND BEGIN NORMAL LANE LINE.
6. ON EXIT FROM INTERSECTION – BEGINNING WITH THE CROSSWALK, OR 12' FROM CURB LINE OF INTERSECTING STREET, INSTALL 4" SOLID WHITE LINE FOR 50' AND BEGIN NORMAL LANE LINE.
7. TURN STORAGE BAYS SHALL BE A MINIMUM OF 100' FOR MINOR STREETS AND 150' FOR MAJOR STREETS.
8. TRANSITIONS TO STORAGE BAYS SHALL BE A MINIMUM OF 100', THOUGH 160' IS DESIRABLE.
9. ALL STREET CROSSINGS SHALL COMPLY WITH T.A.S AND A.D.A DETAILS AND CRITERIA.
10. PAVEMENT SURFACE AREAS PRIOR TO PLACEMENT OF PAVEMENT MARKINGS, AND/OR RAISED PAVEMENT MARKERS SHALL BE CLEANED IN ACCORDANCE WITH CITY OF FRIENDSWOOD TECHNICAL SPECIFICATIONS (COFTS). AREAS SHALL BE FREE OF CURING MEMBRANE, DIRT, GREASE, LOOSE AND/OR FLAKING EXISTING MARKERS AND OTHER FORMS OF DEBRIS. SURFACES SHALL BE DRY BEFORE APPLYING PAVEMENT MARKINGS OR RAISED PAVEMENT MARKERS.
    - 10.1. CONCRETE SURFACES SHALL BE CLEANED BY ABRASIVE BLASTING MEDIUM.
    - 10.2. ASPHALTIC PAVEMENT SURFACES SHALL BE CLEANED BY BRUSHING,WASHING, COMPRESSED AIR, AND/OR HIGH-PRESSURE WATER.
11. ALL PAVEMENT MARKINGS AT INTERSECTIONS SHALL BE THERMOPLASTIC IN ACCORDANCE WITH C.O.F.T.S. APPROVED PRODUCTS LIST.
12. ALL PAVEMENT MARKINGS SHALL BE SHOWN ON THE APPROVED CONSTRUCTION PLANS. ALL PAVEMENT MARKINGS SHALL BE RETRO-REFLECTIVE MATERIAL APPLIED TO ROAD SURFACE IN A MOLTEN STATE BY SCREED/EXTRUSION, SUSPENDED EXTRUSION OR SPRAY MEANS, WITH A SURFACE APPLICATION OF GLASS BEADS.
13. ALL ESPLANADE NOSING, AND CURBS IN LEFT TURN STORAGE BAYS SHALL BE PAINTED WITH YELLOW REFLECTORIZED PAINT AND SHALL COMPLY WITH T.M.U.T.C.D., A.D.A, T.A.S, AND C.O.F.T.S STANDARDS, AND ALL REVISIONS THEREOF.
14. ALL ROADWAYS WITHOUT A CURB SHALL HAVE A 4" SOLID WHITE REFLECTORIZED STRIPE 12" INSIDE THE EDGE OF THE PAVEMENT (SEED DETAIL D).
15. INTERSECTIONS HAVING TWO LANES IN ONE DIRECTION SHALL SEPARATE LANES BY INSTALLING AN 8" SOLID WHITE STRIPE FROM STOP BAR TO EIGHTY PERCENT (80%) OF TURN STORAGE BAY LENGTH (SEE DETAIL B).
16. REPEAT CENTER TURN ARROWS AT APPROXIMATELY EVERY 1000' THROUGHOUT TWO-WAY CENTER TURN LANE.
17. ALL PAVEMENT MARKINGS, AND/OR RAISED PAVEMENT MARKERS SHALL COMPLY WITH T.M.U.T.C.D., A.D.A., T.A.S., AND C.O.F.T.S. AND ALL REVISIONS THEREOF.
18. TRANSITIONS FROM UNDIVIDED TO DIVIDED AND/OR ESPLANADE SECTIONS:
    - 18.1 FOR SPEEDS 45 MPH AND GREATER USE L=W*S.
    - 18.2 S = POSTED OR STATUTORY SPEED LIMIT.
    - 18.3 W = WIDTH OF CENTER LANE OR ESPLANADE OR OFFSET DISTANCE.
    - 18.4 MINIMUM L IN URBAN AREAS SHALL BE 100'.
    - 18.5 MINIMUM L IN RURAL AREAS SHALL BE 200'.
    - 18.6 L SHALL BE EXTENDED AS REQUIRED FOR SIGHT DISTANCE CONDITIONS.
19. THE COLOR OF RAISED PAVEMENT MARKERS UNDER DAYLIGHT AND NIGHTTIME CONDITIONS SHALL CONFORM TO THE COLOR OF THE MARKING FOR WHICH THEY SERVE AS A POSITIONING GUIDE OR FOR WHICH THEY SUPPLEMENT OR SUBSTITUTE.
20. ALL TRAFFIC BUTTONS AND RAISED PAVEMENT MARKERS SHALL BE INSTALLED ADJACENT TO STRIPES AT APPROXIMATELY 2" FROM EDGE OF BUTTON/MARKER TO STRIPE.
21. ALL BUTTONS AND RAISED PAVEMENT MARKERS SHALL BE INSTALLED WITH AN APPROVED EPOXY.
22. A BLUE REFLECTORIZED RAISED PAVEMENT MARKER (TYPE II B-B) SHALL BE SET 6" OFF CENTERLINE OF ROADWAY OR PAVEMENT STRIP ON THE ADJACENT SIDE OF ALL FIRE HYDRANTS.
23. SPACING OF RAISED PAVEMENT MARKERS TYPE II A-A, TYPE II C-R AND TYPE I-C:
    - 23.1 IN STORAGE BAYS AND TRANSITIONS TO STORAGE BAYS D=5' O.C.
    - 23.2 IN CURVES D=20' O.C.
    - 23.3 IN NORMAL ROADWAY D=40' O.C.
24. ALL MARKINGS SHALL HAVE A UNIFORM CROSS-SECTION, AND THE DENSITY AND QUALITY OF THE MARKINGS SHALL BE UNIFORM THROUGHOUT THEIR THICKNESS.
25. PAVEMENT MARKINGS, BUTTONS AND RAISED PAVEMENT MARKERS THAT ARE NOT IN ALIGNMENT OR SEQUENCE, AS SHOWN IN THE DRAWINGS OR STATED IN THE PROJECTS' SPECIFICATIONS SHALL BE REMOVED AND REPLACED AT THE CONTRACTORS' EXPENSE.
26. FOR SKEW INTERSECTIONS AND STREET WIDTHS NOT SHOWN, COORDINATE WITH THE CITY OF FRIENDSWOOD ENGINEERING DEPARTMENT AT (281) 993-3411

PERMANENT PAVEMENT MARKING STANDARD DETAILS

FILE NAME: 8-PPMSD-2022.DWG

DATE APPROVED: MARCH 30, 2022

SCALE: NTS | REVISED DATE: MARCH 2022

FRIENDSWOOD TEXAS

ENGINEERING DEPARTMENT

PROJECT NUMBER:

DATE SUBMITTED:

SHEET: 1 OF 1