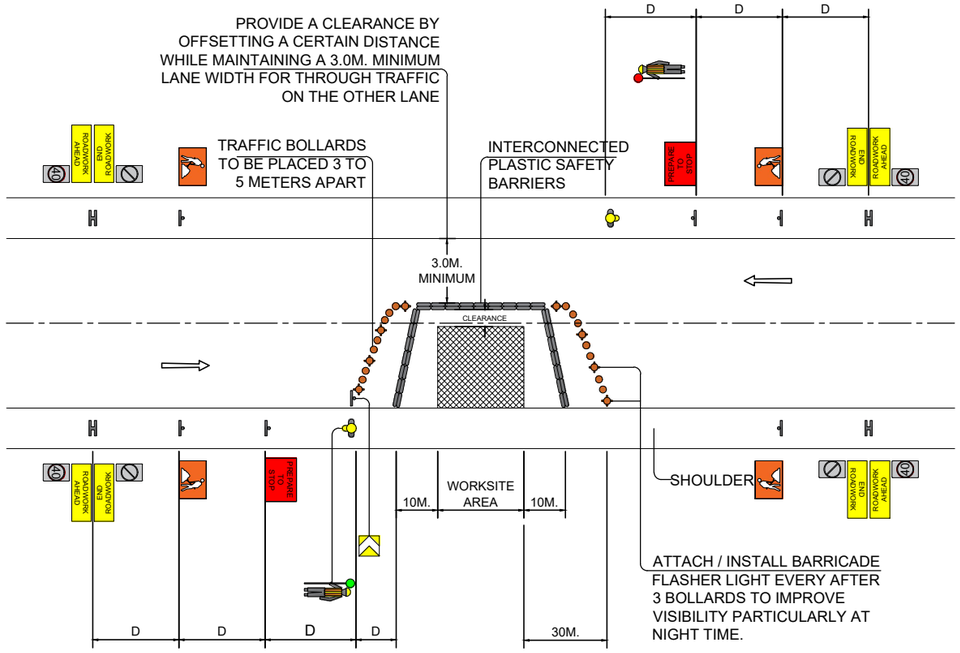
E. MISCELLANEOUS DRAWINGS

ORGANIZATIONAL OUTCOME 1 : Ensure Safe and Reliable National Road System - Asset Preservation Program - Rehabilitation/ Reconstruction of Roads with Slips, Slope Collapse, and Landslide - Secondary Roads - Catanduanes Cir Rd - K0102 + 214 - K0102 +254

Catanduanes Cir Rd, Catanduanes

LAYOUT 7 (CASE 1)

PART LANE CLOSURE - 2 LANE, 2 WAY ROAD, HIGH SPEED LONG TERM

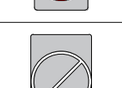
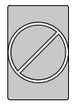


ATTACH / INSTALL BARRICADE FLASHER LIGHT EVERY AFTER 3 BOLLARDS TO IMPROVE VISIBILITY PARTICULARLY AT NIGHT TIME.

DIMENSION "D"

A DISTANCE EXPRESSED IN METERS EQUAL TO THE APPROACH SPEED OF TRAFFIC IN KILOMETERS PER HOUR

RED AND GREEN FLAGS ARE USED BY A ROADWORK TRAFFIC CONTROLLER TO PROVIDE TEMPORARY TRAFFIC CONTROL. FLAGS SHALL BE A MINIMUM OF 600MM SQUARE AND MADE OF MATERIAL SECURELY FASTENED TO A HANDLE APPROXIMATELY 900MM LONG.

ROAD AND BRIDGE WORKSITE TEMPORARY SIGNAGES		SIGNAGE DESCRIPTIONS			
		SIGN NO.	SIZE (MM) (WIDTH X HEIGHT)	LETTERS / SYMBOLS	BACKGROUND
ADVANCED WARNING SIGNS					
ROADWORK AHEAD	ROADWORK AHEAD (T1-1, T1-31)	T1-1	1800 X 600	LINE 1-BLACK 200 DM LINE 2-BLACK 160 DM	YELLOW REFLECTORIZED
ROAD MACHINERY AHEAD	ROAD MACHINERY AHEAD (T1-3)	T1-3	1200 X 600	LINE 1-BLACK 100 EM LINE 2-BLACK 120 DM LINE 3-BLACK 100 EM	YELLOW REFLECTORIZED
GRADER AHEAD	GRADER AHEAD (T1-4)	T1-4	900 X 600	LINE 1-BLACK 140 DN	YELLOW REFLECTORIZED
	WORKMEN AHEAD (SYMBOLIC) (T1-5)	T1-1	900 X 600	BLACK	RED / ORANGE FLOURESCENT FOR DAY USE (SHORT TERM) REFLECTORIZED FOR NIGHT USE (LONG TERM)
ROADWORK ON SIDE ROAD	ROADWORK ON SIDE ROAD (T1-25)	T1-25	1800 X 600	LINE 1-BLACK 160 EN LINE 2-BLACK 160 DN	YELLOW REFLECTORIZED
END ROADWORK	END ROADWORK (T2-16, T2-17)	T1-16	1800 X 600	LINE 1-BLACK 200 DM LINE 2-BLACK 160 DM	YELLOW REFLECTORIZED
REGULATORY SIGNS					
PREPARE TO STOP	PREPARE TO STOP (T1-18)	T1-18	900 X 600	LINE 1-WHITE 120 DM LINE 2-WHITE 120 DM LINE 3-WHITE 120 EM REFLECTORIZED	RED REFLECTORIZED
60	SPEED RESTRICTION (R4-1)	R4-1	600 X 800 (SIZE B)	BLACK 240 DN CIRCLE-600 DIA. RED	WHITE REFLECTORIZED RED CIRCLE REFLECTORIZED
ROAD WORK	ROAD WORK (R4-3)	R4-3	600 X 800 (SIZE B)	LINE 1-BLACK 100 EM LINE 2-BLACK 100 EM	WHITE REFLECTORIZED
END 60	END SPEED RESTRICTION (R4-12, R4-2)	R4-12	600 X 1000	LINE 1-BLACK 160 EM LINE 2-BLACK 240 DN CIRCLE-600 DIA. RED	WHITE REFLECTORIZED RED CIRCLE REFLECTORIZED
	END SPEED RESTRICTION (R4-12, R4-2) DE-RESTRICTION	R4-2	600 X 800 (SIZE B)	SYMBOL-600 DIA. BLACK	WHITE REFLECTORIZED

REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS
CATANDUANES DISTRICT ENGINEERING OFFICE
VIRAC, CATANDUANES

PROJECT NAME AND LOCATION:
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SHEET CONTENT:
DETAILS OF TRAFFIC MANAGEMENT LAYOUT, STANDARD WORKSITE, TEMPORARY SIGNAGES

PREPARED:
MARK RONALD D. SUAISO
ENGINEER I
DATE:

REVIEWED:
JOSE T. VARGAS
ENGINEER II
DATE:

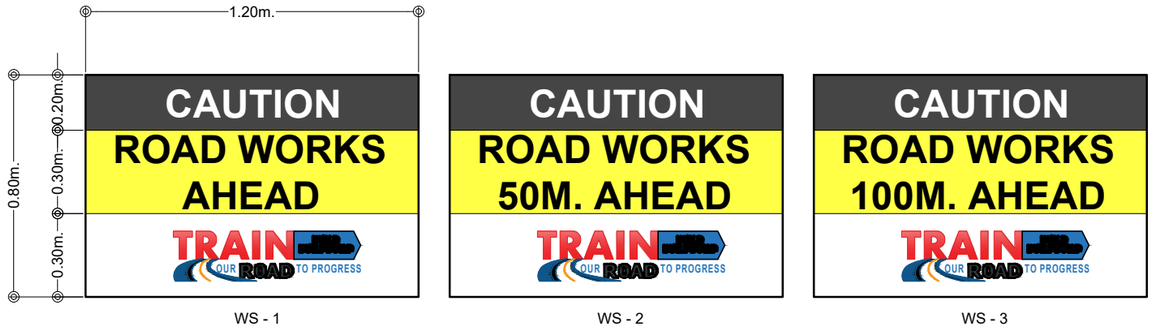
SUBMITTED:
ROSANA T. CAMACHO
CHIEF, PLANNING AND DESIGN SECTION
DATE:

RECOMMENDED:
JOY AGNES S. NACHOR
OIC - ASST. DISTRICT ENGINEER
DATE:

APPROVED:
SIMON N. ARIAS
DISTRICT ENGINEER
DATE:

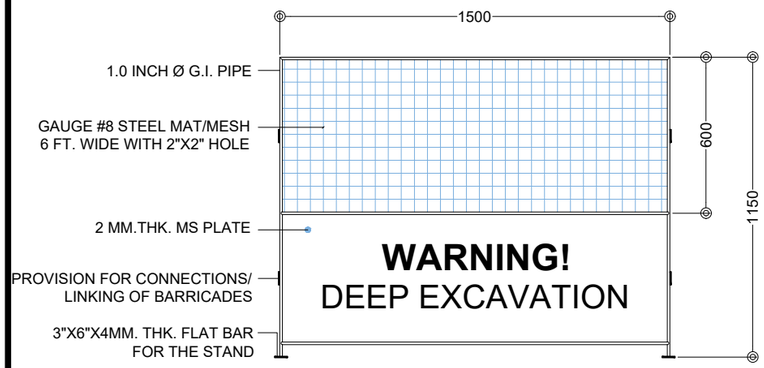
SET NO. 1 - E

SHEET NO.

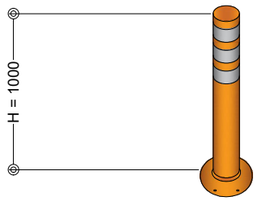


WS - 1 WS - 2 WS - 3

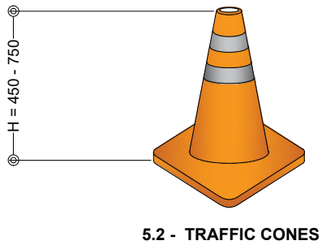
TS-1 31|35 DETAILS OF WARNING SIGNAGES
NOT TO SCALE



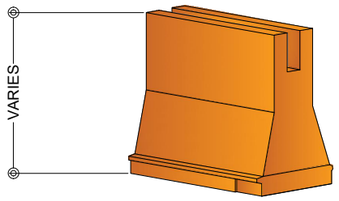
TS-2 31|35 DETAILS OF CONSTRUCTION MESH FENCE / BARRICADE
NOT TO SCALE



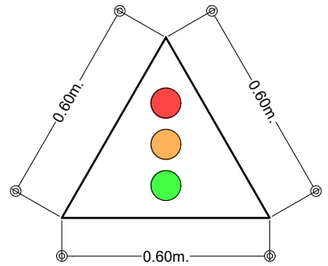
5.3 - TEMPORARY BOLLARDS



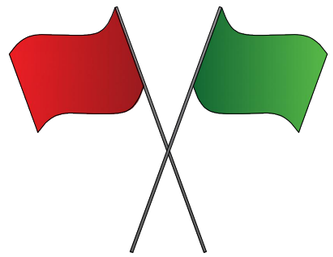
5.2 - TRAFFIC CONES



5.8.1 - LIGHTWEIGHT PLASTIC UNIT



5.15 - SIGNAL AHEAD SIGNS (W3-1)

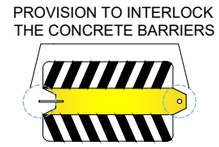


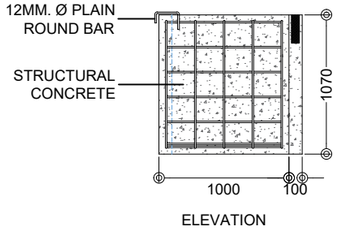
RETROREFLECTIVE RED & GREEN FLAGS

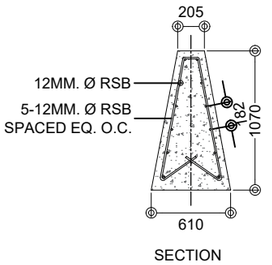
4.5.3 - STOP / GO FLAGS

HIGH VISIBILITY CLOTHING

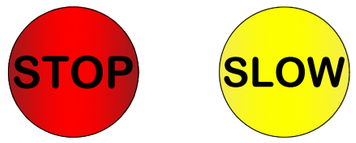
6.1 - TRAFFIC SAFETY VEST





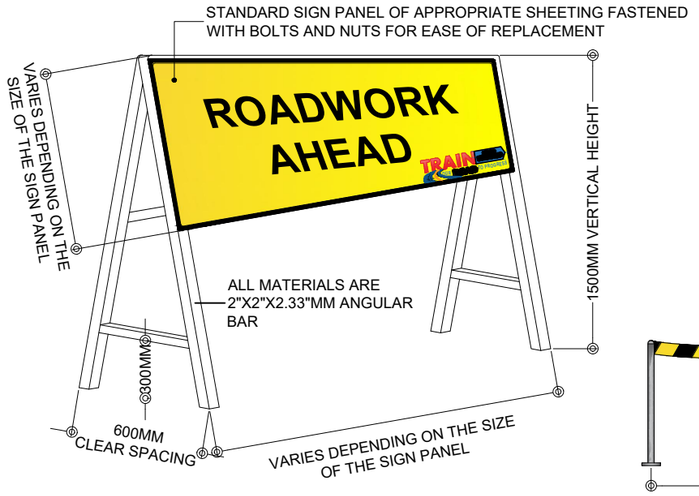


TS-6 22|27 DETAILS OF CONCRETE BARRIERS
NOT TO SCALE

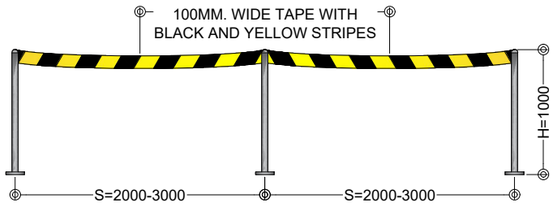


4.5.2 - STOP/ SLOW HANDHELD SIGNS (R6-8, T7-1)

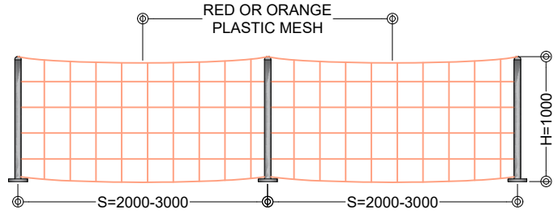
SIGN NO.	SIZE	LETTERS	BACKGROUND
R6-8	450 Ø	WHITE 140 CN REFLECTORIZED (INCLUDING BORDER)	RED REFLECTORIZED
T7-1	450 Ø	BLACK 135 CN (INCLUDING BORDER)	YELLOW REFLECTORIZED



TS-3 31|35 DETAILS OF TWO SIDED SIGN FRAME
NOT TO SCALE



TS-4 31|35 CONTAINMENT TAPES
NOT TO SCALE



TS-5 31|35 MESH FENCING
NOT TO SCALE

REFERENCES:

- DPWH ROAD WORKS SAFETY MANUAL 2004
- DPWH HIGHWAY SAFETY DESIGN STANDARDS MANUALS
  (PART - 1 ROAD SAFETY DESIGN MANUAL)
  (PART - 2 ROAD SIGNS 7 PAVEMENT MARKINGS MANUAL)

SPECIAL PROVISIONS

- DEPARTMENT ORDER NO.13 SERIES OF 2018
- MEMO ORDER DATED MARCH 21, 2018 (TRAIN BRANDING)

TS STANDARD TRAFFIC CONTROL DEVICES

REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS
CATANDUANES DISTRICT ENGINEERING OFFICE
VIRAC, CATANDUANES

PROJECT NAME AND LOCATION:
ORGANIZATIONAL OUTCOME 1 : Ensure Safe and Reliable National Road System - Asset Preservation Program - Rehabilitation/ Reconstruction of Roads with Slips, Slope Collapse, and Landslide - Secondary Roads - Catanduanes Cir Rd - K0102 + 214 - K0102 +254 Catanduanes Cir Rd, Catanduanes

SHEET CONTENT:
DETAILS OF STANDARD TRAFFIC CONTROL DEVICES

PREPARED:	REVIEWED:	SUBMITTED:	RECOMMENDED:	APPROVED:
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DATE:	DATE:	DATE:	DATE:	DATE:

SET NO. 1 - E
SHEET NO.

GENERAL NOTES FOR ROADWORKS TRAFFIC MANAGEMENT PLAN

1. GENERAL

TRAFFIC CONTROL DEVICES ARE USED IN CONJUNCTION WITH WORK SITE SIGNS TO DEFINE THE TRAFFIC PATH, TO INHIBIT ACCESS INTO THE WORK AREA, TO ACT AS BARRIER TO PROJECT WORKERS.

2. TRAFFIC CONES (5.2)

THE TRAFFIC CONES ARE USED TO INDICATE THE PATH THE TRAFFIC SHOULD FOLLOW AROUND THE WORK SITE. THEY ARE USEFUL FOR DELINEATION OF TAPERS, MERGES, LANE SEPARATION, OR SIMILAR TEMPORARY MEASURES.

TRAFFIC CONES SHALL BE FLUORESCENT RED OR ORANGE PLASTIC THAT IS RESILIENT TO IMPACT AND WILL NOT DAMAGE VEHICLES WHEN HIT AT LOW SPEED. THE HEIGHT OF TRAFFIC CONES VARIES FROM 450MM TO 750MM. THEY SHALL BE DESIGNED TO BE STABLE IN WIND AND THE AIR TURBULENCE FROM PASSING TRAFFIC.

TRAFFIC CONES ARE GENERALLY SPACED AS FOLLOWS:

A. 5 TO 10 METERS APART ON TAPERS.
B. 10 TO 20 METERS APART TO PROVIDE LONGITUDINAL SEPARATION BETWEEN OPPOSING TRAFFIC FLOWS.
C. 10 TO 20 METERS APART TO PROVIDE LONGITUDINAL SEPARATION OF TRAFFIC FROM THE WORKSITE OR A CLOSED LANE. THIS SPACING MAY BE INCREASED TO 50 METERS WHERE THE LENGTH OF THE CONES EXCEEDS 1 KILOMETER.
D. 5 TO 10 METERS APART AROUND SMALL WORKSITES. THIS MAY NEED TO BE REDUCED TO 3 METERS TO GUIDE PEDESTRIANS OR TO PREVENT TRAFFIC TAKING A WRONG TURN THROUGH A GAP IN THE LINE OF CONES.

TRAFFIC CONES MUST BE CHECKED ON REGULAR BASIS AS THEY CAN BE EASILY KNOCKED OUT OF POSITION BY PASSING VEHICLES.

3. TEMPORARY BOLLARDS (5.3)

TEMPORARY TRAFFIC BOLLARDS ARE USED TO DEFINE THE PATH THAT TRAFFIC SHOULD FOLLOW AROUND THE WORKSITE. THEY ARE USEFUL IN PLACE OF TRAFFIC CONES IF GREATER STABILITY IS REQUIRED WHEN DELINEATING TAPERS, MERGES, LANE SEPARATION, OR LONGITUDINAL SEPARATION AND DELINEATION BETWEEN TRAFFIC AND THE OUTER EDGE OF A WIDENING EXCAVATION OR WORKSITE.

TRAFFIC BOLLARDS SHALL BE FLUORESCENT RED OR ORANGE PLASTIC THAT IS RESILIENT TO IMPACT AND WILL NOT DAMAGE VEHICLES WHEN HIT A T LOW SPEED. THE HEIGHT OF TRAFFIC BOLLARD IS UP TO (1) ONE METER.

FOR NIGHT TIME OPERATIONS,THE BOLLARD MUST BE FITTED WITH REFLECTIVE TAPE WITH A MINIMUM BAND WIDTH OF 250MM.

TRAFFIC BOLLARD ARE GENERALLY SPACED AS FOLLOWS:

A. 5 TO 10 METERS APART ON TAPERS.
B. 10 TO 20 METERS APART TO PROVIDE LONGITUDINAL SEPARATION BETWEEN OPPOSING TRAFFIC FLOWS.
C. 10 TO 20 METERS APART TO PROVIDE LONGITUDINAL SEPARATION OF TRAFFIC FROM THE WORKSITE OR A CLOSED LANE. THIS SPACING MAY BE INCREASED TO 50 METERS WHERE THE LENGTH OF THE CONES EXCEEDS 1 KILOMETER.
D. 5 TO 10 METERS APART AROUND SMALL WORKSITES. THIS MAY NEED TO BE REDUCED TO 3 METERS TO GUIDE PEDESTRIANS OR TO PREVENT TRAFFIC TAKING A WRONG TURN THROUGH A GAP IN THE LINE OF CONES.

BOLLARDS MUST BE CHECKED ON REGULAR BASIS AS THEY CAN BE EASILY KNOCKED OUT OF POSITION BY PASSING VEHICLES. BOLLARDS MAY BE FIXED TO THE ROADWAY TO KEEP THEM IN POSITION. ALTERNATIVELY, THEY MAY BE STABILIZED WITH A BAG OF SAND OR GRAVEL ON THE BASE.

4. TEMPORARY HAZARD MARKERS (T5-4/ T5-5) (5.4)

TEMPORARY HAZARD MARKERS SHALL BE USED TO INDICATE A LATERAL CHANGE IN DIRECTION OF THE TRAVELED PATH THROUGH THE WORKSITE.

TEMPORARY HAZARD MARKERS SHALL ALSO BE USED TO WARN ROAD USERS OF AN ADJACENT HAZARD OR CLOSED AREA OR LENGTH OF ROAD OR SHOULDER ALONG WHICH IT IS HAZARDOUS FOR VEHICLES TO TRAVEL.

THE SIGNS SHALL BE INSTALLED APPROXIMATELY 10 METER CLEAR OF THE EDGE OF THE REMAINING WIDTH OF ROAD USED BY TRAFFIC. THE CHEVRONS SHOULD POINT TO THE SIDE TO WHICH TRAFFIC MUST PASS.

A SINGLE TEMPORARY HAZARD MARKERS MAY BE USED AT THE START OF A TAPER MARKED WITH TRAFFIC CONES. ALTERNATIVELY, THEY MAY BE SPACED ALONG THE TAPER IN CONJUNCTION WITH THE TRAFFIC CONES OR TEMPORARY BOLLARDS. SUBJECT TO THE LENGTH OF THE TAPER, UP TO 3 OR 4 WOULD BE EVENLY SPACED ALONG THE TAPER. TEMPORARY HAZARD MARKERS MAY ALSO BE USED INSTEAD OF TRAFFIC CONES OF TEMPORARY BOLLARDS TO INDICATE A TAPER.

TEMPORARY HAZARD MARKERS SHOULD NOT BE USED ON BOTH SIDES OF A TAPER OR TRAVELED PATH HAS TWO LINES OR MARKERS FACING OPPOSITE DIRECTIONS MAY CAUSE CONFUSION. IN THIS SITUATION HAZARD MARKERS MAY ALSO BE USED ON THE SIDE TO DIRECT TRAFFIC LATERALLY AND CONES OR BOLLARDS WOULD BE USED ON THE OTHER SIDE. WHEN USED TO PROVIDE LONGITUDINAL DELINEATION OF THE OUTER EDGE OF A CLOSED SHOULDER OR WIDENING EXCAVATION THEY SHALL BE REPEATED AT 50 TO 100M INTERVALS.

SIGN NO.	SIZE (MM)	CHEVRONS	BACKGROUND
T5-4	1500 X 50	BLACK 177 WIDE AT 45°	YELLOW REFLECTORIZED
T5-5	600 X 600	BLACK 194 WIDE AT 45°	

5. BARRIER BOARDS (5.5)

A BARRIER BOARD MOUNTED ON A TRESTLE IS A USEFUL DEVICE FOR INHIBITING ACCESS TO A WORKSITE.

THE BOARDS MAY BE UP TO 4 METERS LONG AND 150MM TO 200MM WIDE WITH DIAGONAL BLACK & REFLECTIVE YELLOW STRIPES, PREFERABLY TERMINATING IN YELLOW AT EACH END.

BARRIER BOARDS ARE MOUNTED AT A HEIGHT OF APPROX. 1 USING TRESTLES. BARRIER BOARDS SHOULD BE ERECTED PERPENDICULAR TO THE DIRECTION OF TRAFFIC FLOW.

BARRIER BOARDS CAN BE A SPEARING HAZARD IF THE END IS STRUCK BY AN ERRANT VEHICLE, SO THEY SHALL NOT BE USED FOR DELINEATION PURPOSED OR INSTALLED PARALLEL TO VEHICULAR TRAFFIC UNLESS THERE IS AN OFFSET OF AT LEAST 4 METERS FROM THE TRAVELED PATH.

6. SAFETY BARRIERS (5.6)

SAFETY BARRIERS MAY BE USED FOR THE SEPARATION OF TRAFFIC AND THE PROTECTION OF WORKERS IN HIGH SPEED AREAS OR IN VULNERABLE SITUATIONS WHERE LATERAL CLEARANCE BETWEEN WORKERS AND MOVING TRAFFIC WOULD BE INSUFFICIENT FOR ADEQUATE SAFETY. SAFETY BARRIERS MAY ALSO BE USED FOR PROTECTION AT A SEVERE HAZARD SUCH AS A DEEP EXCAVATION OR BRIDGE PIER.

SAFETY BARRIERS PHYSICALLY SEPARATING TRAFFIC FROM THE WORK AREA SHALL BE DESIGNED TO RESTRICT PENETRATION BY AN OUT OF CONTROL VEHICLE, AND AS FAR AS PRACTICABLE, TO REDIRECT ERRANT VEHICLES AWAY FROM THE WORKS AREA AND BACK ONTO THE TRAFFIC PATH.

CONCRETE BARRIERS NEED TO BE CONTINUOUS OR SECURED TOGETHER (GENERALLY USING STEEL PINS AND EYELETS) WITH A MAXIMUM 100MM GAP TO ENSURE THEY PERFORM SATISFACTORILY. IF HIT BY A VEHICLE, UNCONNECTED UNITS ARE NOT ABLE TO RESTRICT PENETRATION AND CAN ALSO BE HAZARDOUS AS AN UNPROTECTED ROADSIDE OBJECT.

THE END OF A SAFETY BARRIER SHALL BE TAPERED AWAY TO PROVIDE AN OFFSET FROM APPROACHING TRAFFIC. WHERE AN APPROACH TAPER CANNOT BE PROVIDED, A TEMPORARY CRASH CUSHION SHOULD BE CONSIDERED AS AN ENERGY ABSORBING DEVICE TO REDUCE THE SEVERITY OF A COLLISION NY AN OUT OF CONTROL VEHICLE.

STEEL GUARDRAIL MAY ALSO BE USED AS A SAFETY BARRIER IN LONG TERM WORKSITE SITUATIONS.

7. CONTAINMENT FENCES (5.8)

CONTAINMENT FENCES MAY BE USED TO PROVIDE SEPARATION BETWEEN TRAFFIC AND WORKERS IN SITUATIONS WHERE PHYSICAL PROTECTION USING A SAFETY BARRIER IS NOT WARRANTED. CONTAINMENT FENCES MAY ALSO BE USED TO SEPARATE PEDESTRIANS FROM WORK AREA.

8. TAPES (5.8.2)

CONTAINMENT TAPES MAY BE USED TO CONTAIN WORKERS WITHIN THE WORK AREA. THE TAPE SHALL BE TIED OR SUPPORTED APPROXIMATELY 1 METER HIGH. THE TAPE SHALL BE 100M WIDE WITH ALTERNATING BLACK AND YELLOW STRIPES.

9. MESH FENCING (5.8.3)

MESH FENCING MAYBE USED ADJACENT THE WORKS AREA TO CONTAIN WORKERS WITHIN THE WORK AREA OR TO SEPARATE PASSING PEDESTRIANS FROM THE WORK AREA. MESH FENCING IS NOT SUITABLE FOR CONTROL OF VEHICLES OR PROTECTION OF WORKERS FROM VEHICLES.

MESH FENCING WOULD GENERALLY BE RED OR ORANGE PLASTIC MESH APPROXIMATELY 1 METER HIGH. IT SHALL BE SECURELY TIED OR SUPPORTED IN PLACE.

10. FLASHING LAMPS (6.10)

BATTERY OPERATED FLASHING YELLOW LAMPS MAY BE USED AT LONG TERM WORKSITES TO DRAW ATTENTION TO ADVANCE SIGNS SUCH AS THE ROADWORK AHEAD OR BRIDGEWORK AHEAD SIGNS.

THEIR USE WOULD USUALLY BE CONFINED TO SITUATIONS WHERE THE EFFECTIVENESS OF STANDARD REFLECTORIZED SIGNS IS A CONCERN AND IT IS CONSIDERED THAT FURTHER MEASURES MAY BE REQUIRED TO MAKE THE SIGNS CONSPICUOUS.

FLASHING LAMPS SHOULD NOT BE USED FOR DELINEATION PURPOSES.

11. WORKERS SIGN (5.13.1)

THIS DOUBLE-SIDED FOLDING WARNING DEVICE IS MOUNTED ON THE TOP OF A WORKS VEHICLE. IT WOULD BE FOLDED INTO THE UPRIGHT POSITION AND MADE VISIBLE TO MOTORISTS WHEN MOVING SLOWLY OR WHEN STOPPED TO CARRY OUT WORKS. THIS DEVIDE WOULD BE SUITABLE FOR USE ON LOW VOLUME ROADS.

12. PORTABLE TRAFFIC SIGNALS

PORTABLE TRAFFIC SIGNALS MAY BE USED INSTEAD OF TRAFFIC CONTROLLERS TO CONTROL TRAFFIC AT A WORKSITE.

THE RED, YELLOW AND GREEN TRAFFIC LIGHTS PROVIDE REGULATORY CONTROL OF TRAFFIC IN A SIMILAR MANNER AS PERMANENT TRAFFIC SIGNAL INSTALLATIONS. THE SIGNALS WOULD BE CONNECTED AND OPERATED BY CABLE OR BY RADIO. TRAFFIC SIGNALS WOULD GENERALLY BE CONSIDERED FOR USE AT SITES WITH HIGH TRAFFIC VOLUMES OR WHERE RELIABLE CONTINUOUS TRAFFIC CONTROL MAY BE NEEDED OVER AN EXTENDED PERIOD.

IF THE ROADWAY IS PAVED A STOP LINE SHALL ALSO BE PROVIDED.

THE SIGNALS AHEAD (W3-1) SIGN SHALL ALSO BE USED TO GIVE ADVANCE WARNING OF THE TRAFFIC SIGNALS. THIS SIGN DETAIL IS INCLUDED IN THE ROAD SIGNS AND PAVEMENT MARKINGS MANUAL.

13. TRAFFIC SAFETY VEST (6.1)

ALL PERSONNEL WORKING ON OR ADJACENT TO A ROADWORK SITE SHALL WEAR APPROPRIATE HIGH VISIBILITY CLOTHING. THE TRAFFIC SAFETY VEST IS DESIGNED TO MAKE WORKERS MORE CONSPICUOUS AND TO WARN USERS OF THEIR PRESENCE.

THE TRAFFIC SAFETY VEST SHALL BE MADE FROM FLUORESCENT RED/ ORANGE MATERIAL. THE VEST SHALL ALSO HAVE AT LEAST TWO STRIPS OF YELLOW RETROREFLECTIVE MATERIAL FRONT AND BACK THE SAFETY VEST SHOULD HAVE A SECURE FASTENING, PREFERABLY A ZIP.

14. ROADWORK AHEAD (T1-1, T1-31)

THE ROADWORK AHEAD SIGN IS USED TO GIVE ADVANCE WARNING OF ANY ROADWORK THAT CREATES A TEMPORARY HAZARD WHERE WORKS ARE LEFT OVERNIGHT.

THE SIGN IS GENERALLY NOT NECESSARY AT SHORT TERM WORKS, BUT MAY BE DESIRABLE FOR SHORT TERM WORKS IN HIGH SPEED ROADS OR WHERE ADDITIONAL ADVANCE WARNING IS CONSIDERED NECESSARY.

15. WORKMEN AHEAD 9SYMBOLIC) (T1-5)

THE WORKMEN AHEAD SIGN SHALL BE USED TO GIVE ADVANCE WARNING FOR THE PROTECTION OF WORKERS ON OR ADJACENT TO PATH OF TRAFFIC.

THE SIGN SHALL ALWAYS BE USED WHEN A TRAFFIC CONTROLLER IS CONTROLLING TRAFFIC.

16. END ROADWORK (T2-16, T2-17)

THE END ROADWORK SIGN IS USED AT THE DEPARTURE END OF A WORK AREA. THE SIGN IS NOT NECESSARY ON SHORT TERM WORKS, MOBILE WORKS OR WHERE AN END DETOUR SIGN IS USED.

17. SPEED RESTRICTION

THE SPEED RESTRICTION SIGN MAY BE USED TO CREATE A TEMPORARY ROADWORK SPEED LIMIT WHERE THIS IS WARRANTED BY TRAFFIC AND SITE CONDITIONS.

IF A SPEED RESTRICTION IS INSTALLED FOR ROADWORK, IT SHALL BE EITHER:

A. ACCOMPANIED BY A SUPPLEMENTARY ROAD WORK SIGN.
B. BE INSTALLED AT THE ADVANCED WARNING ROAD WORK AHEAD SIGN.

18. END SPEED RESTRICTION

THE DE-RESTRICTION SIGN WOULD BE USED IF THE ROAD DID NOT HAVE A SPEED LIMIT SIGNED AND IT IS REASONABLY SAFE TO TRAVEL AT HIGHER SPEED (E.G. A HIGH STANDARD RURAL ROAD.)

19. PREPARE TO STOP

THE PREPARE TO STOP SIGN SHOULD BE USED TO GIVE ADVANCE WARNING WHERE TRAFFIC MAY NEED TO COMPLY WITH THE DIRECTIONS OF A ROADWORK TRAFFIC CONTROLLER OR WHERE PORTABLE TEMPORARY TRAFFIC SIGNALS ARE BEING USED AT A WORKSITE.

20. STOP/ SLOW HANDHELD SIGNS (R6-8, T7-1)

THE STOP/ SLOW SIGNS SHOULD BE USED BY A ROADWORK TRAFFIC CONTROLLER TO PROVIDE TEMPORARY TRAFFIC CONTROL.

21. STOP/ GO FLAGS

RED AND GREEN FLAGS ARE USED BY A ROADWORK TRAFFIC CONTROLLER TO PROVIDE TEMPORARY TRAFFIC CONTROL. THE RED FLAG IS USED TO STOP TRAFFIC AND THE GREEN FLAG ALLOW TRAFFIC TO PROCEED.

FLAGS SHALL BE A MINIMUM OF 600MM SQUARE AND MADE OF MATERIAL SECURELY FASTENED TO A HANDLE APPROXIMATELY 900MM LONG. FLAGS SHALL BE RETROREFLECTIVE.

REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS
CATANDUANES DISTRICT ENGINEERING OFFICE
VIRAC, CATANDUANES

PROJECT NAME AND LOCATION:
ORGANIZATIONAL OUTCOME 1 : Ensure Safe and Reliable National Road System - Asset Preservation Program - Rehabilitation/ Reconstruction of Roads with Slips, Slope Collapse, and Landslide - Secondary Roads - Catanduanes Cir Rd - K0102 + 214 - K0102 +254 Catanduanes Cir Rd, Catanduanes

SHEET CONTENT:
GENERAL NOTES FOR ROADWORK TRAFFIC MANAGEMENT PLAN

PREPARED:
MARK RONALD D. SUAISO
ENGINEER I
DATE:

REVIEWED:
JOSE T. VARGAS
ENGINEER II
DATE:

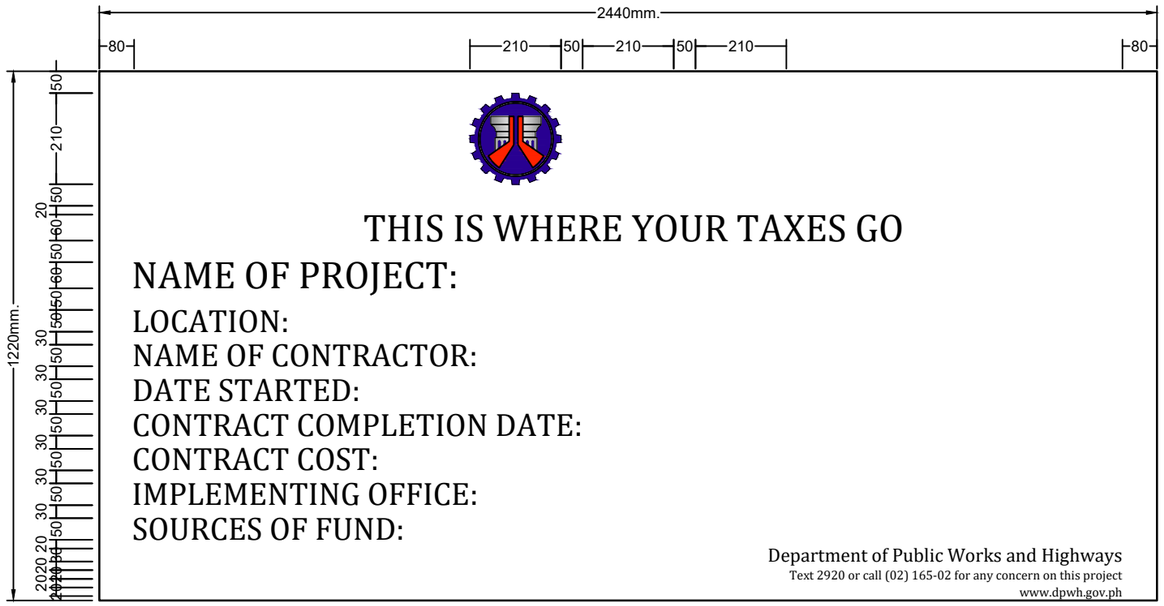
SUBMITTED:
ROSANA T. CAMACHO
CHIEF, PLANNING AND DESIGN SECTION
DATE:

RECOMMENDED:
JOY AGNES S. NACHOR
OIC - ASST. DISTRICT ENGINEER
DATE:

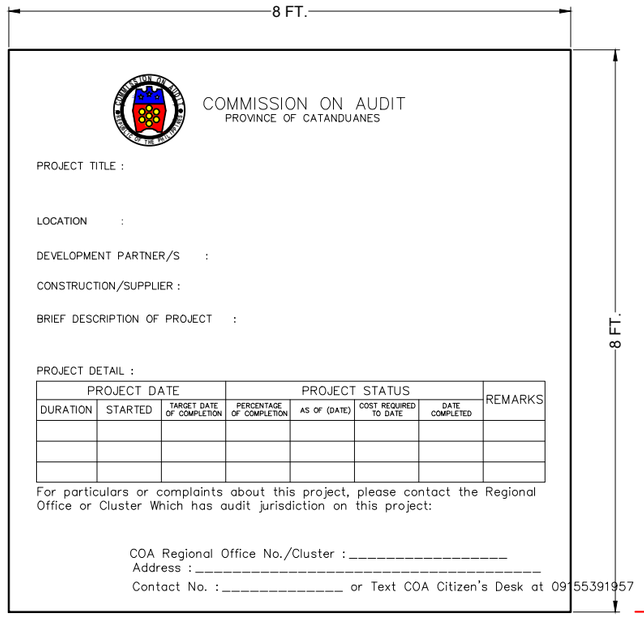
APPROVED:
SIMON N. ARIAS
DISTRICT ENGINEER
DATE:

SET NO. 1 - E

SHEET NO.



01 3335 **DPWH STANDARD PROJECT BILLBOARD**
NOT TO SCALE
per D.O. No. 11 series of 2022



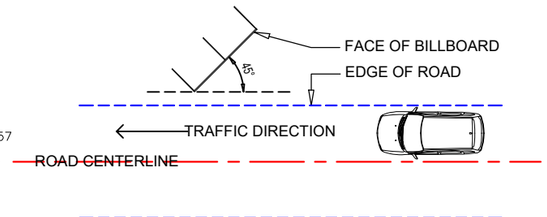
02 3335 **COA STANDARD PROJECT SIGNBOARD**
NOT TO SCALE
per COA CIRCULAR NO. 2013-004 dtd. JAN.30, 2013.

SPECIFICATIONS:

1.) TARPAULIN, WHITE 8FT. X 8FT.
2.) RESOLUTION: 70 DPI
3.) FONT: HELVETICA
4.) FONT SIZE: MAIN INFORMATION - 3"
5.) SUB INFORMATION - 1"
6.) FONT COLOR - BLACK

NOTE:

FOR INFRASTRUCTURE PROJECTS, A TARPAULIN SIGNBOARD MUST BE SUITABLY FRAMED FOR OUTDOOR DISPLAY AT THE PROJECT LOCATION, AND SHALL BE POSTED AS SOON AS THE AWARD HAS BEEN MADE.



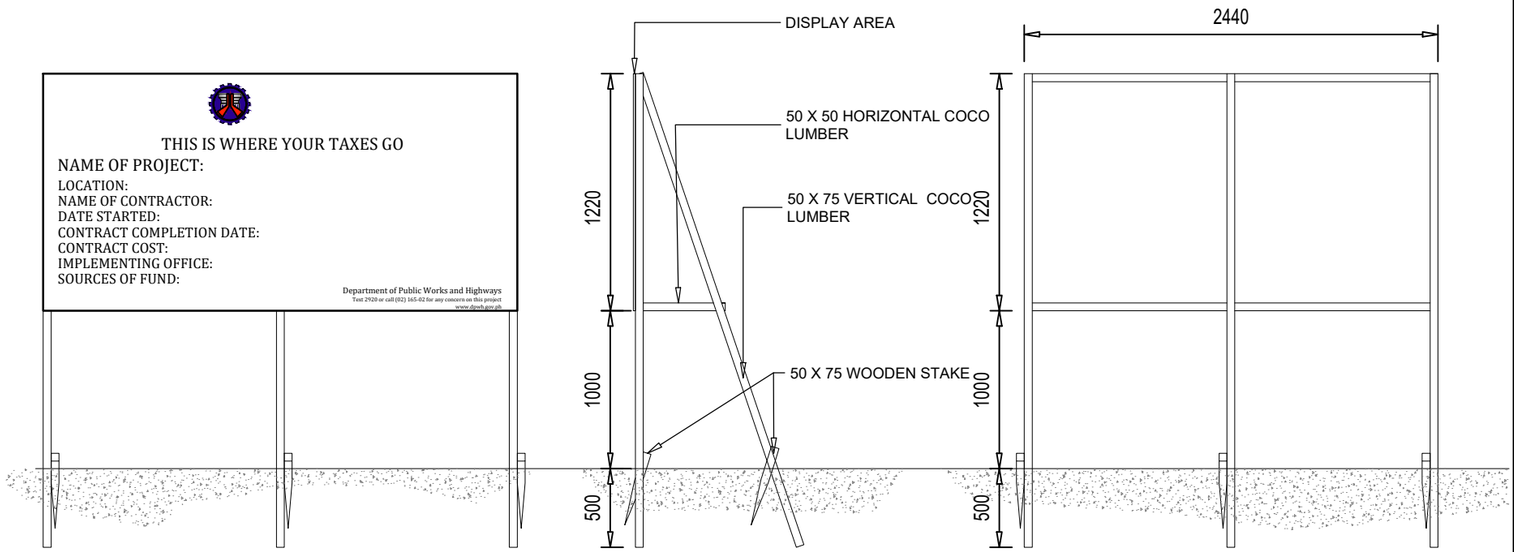
(PLAN)
ORIENTATION

NOTES FOR DPWH STANDARD PROJECT BILLBOARD AS PER D.O.11 S 2022

1.) THE BILLBOARD STANDARD SHALL CONTAIN THE STATEMENT "THIS IS WHERE YOUR TAXES GO" TOGETHER WITH LOGOS OF THE DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS (DPWH), THE BUREAU OF INTERNAL REVENUE (BIR) AND THE DEPARTMENT OF FINANCE (DOF) PLACED IN THE UPPER PART OF THE BILLBOARD WITH THE DIMENSION AS SHOWN. THE SAID STATEMENT SHALL BE LOCATED ON THE UPPER PART OF THE BILLBOARD WITH FONT SIZE OF 60MM.
2.) THE NAME OF THE GOVERNMENT AGENCY AND LOGOS SHALL BE PRINTED ON THE SAME WHITE BACKGROUND OF THE BILLBOARD.
3.) THE NAME OF PROJECT AND LOCATION SHALL BE SEPARATED FOR CLARITY.
4.) THE WORDS "CONTRACTOR" AND "IMPLEMENTING OFFICE/ CONTACT NO. " SHALL BE CHANGED TO "NAME OF CONTRACTOR" AND "IMPLEMENTING OFFICE", RESPECTIVELY.
5.) THE CONTACT NUMBER AND WEBSITE OF DPWH SHALL BE PLACED AT THE LOWER RIGHT SIDE.

NOTES FOR DPWH STANDARD PROJECT BILLBOARD:

1.) THE NEW BILLBOARD DESIGN LAYOUT, DIMENSION AND LETTER SIZES ON WHITE BACKGROUND, SHALL BE DEPICTED ON A STANDARD BILLBOARD MEASURING 1220MM X 2440MM (4FT.X8FT.) USING 12.50MM ($\frac{1}{2}$ INCH) THICK MARINE PLYWOOD OR TARPAULIN OF THE SAME SIZE POSTED ON 5MM ($\frac{3}{16}$ INCH) MARINE PLYWOOD.
2.) ALL EXISTING BILLBOARDS OF ON-GOING PROJECTS SHALL BE REPLACED WITH NEW ONE ADOPTING THE ABOVE GUIDELINES.
3.) FOR EACH BUILDING PROJECT, THE BILLBOARD SHALL BE INSTALLED IN FRONT OF THE PROJECT SITE.
4.) FOR EACH ROAD/BRIDGE/FLOOD CONTROL PROJECTS, TWO BILLBOARDS SHALL BE INSTALLED, ONE AT THE BEGINNING AND ONE AT THE END OF THE PROJECT.
5.) FOR ROAD PROJECTS WITH LENGTH OF 10 KILOMETERS OR MORE, ADDITIONAL BILLBOARD SHALL ALSO BE INSTALLED AT EVERY 5-KILOMETER INTERVAL.
6.) NAME(S) AND/OR PICTURE(S) OF ANY PERSONAGES SHOULD NOT APPEAR IN THE BILLBOARD.
7.) NO OTHER BILLBOARDS SHALL BE ALLOWED TO BE INSTALLED 100 METERS BEFORE AND 100 METERS AFTER ALL DPWH PROJECTS AND IN-BETWEEN THE PROJECT LIMITS OR WITHIN THE ROAD-RIGHT-OF-WAY.
8.) DPWH CONTRACTORS SHALL NOT BE ALLOWED TO PLACE NAMES OF POLITICIAN OR CARRY POLITICAL BILLBOARD ON THEIR EQUIPMENTS.



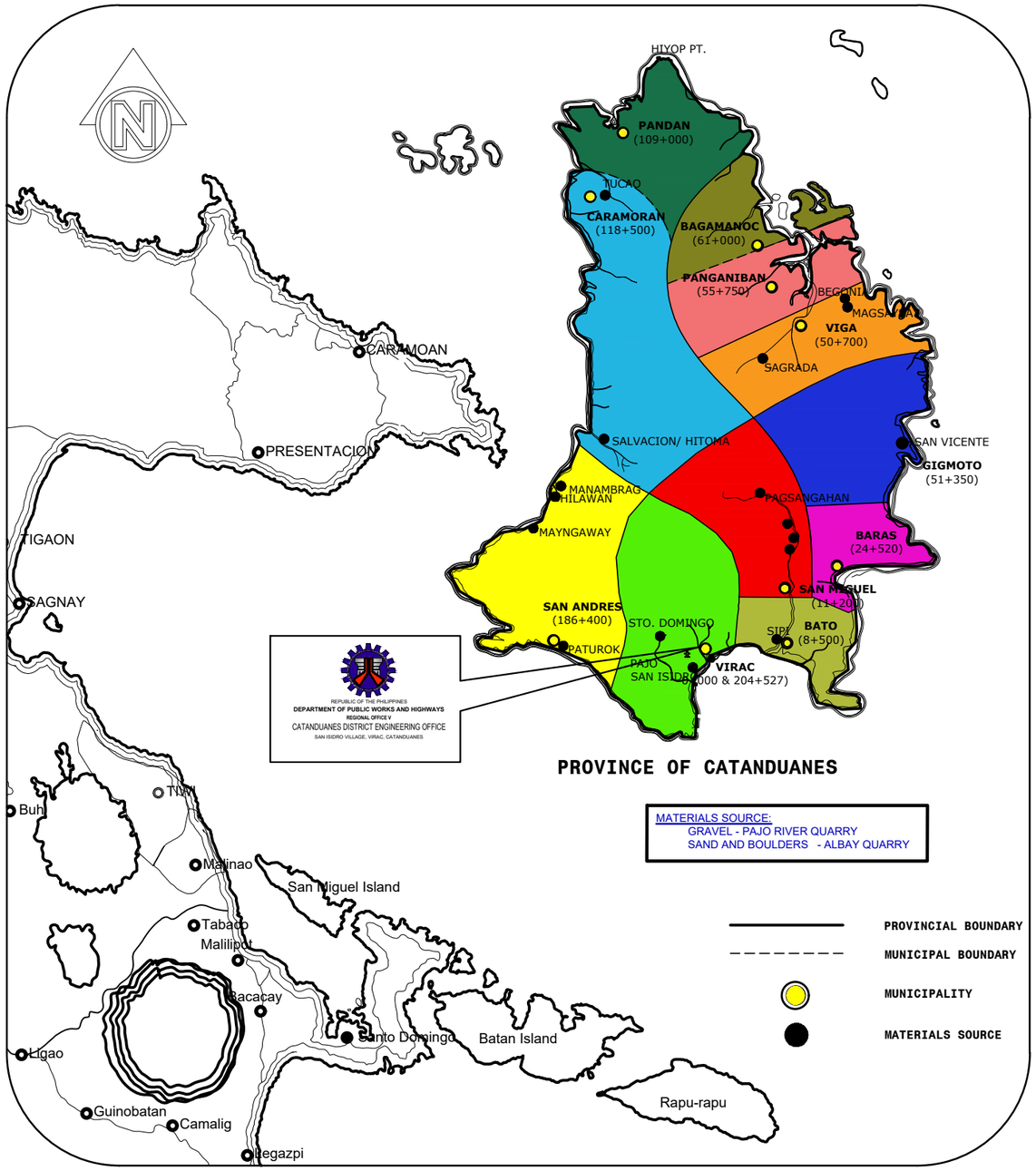
FRONT ELEVATION | **TYPICAL FRAME ELEVATION** | **REAR ELEVATION**

03 3335 **DETAILS OF WOODEN FRAME**
NOT TO SCALE

REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS
CATANDUANES DISTRICT ENGINEERING OFFICE
VIRAC, CATANDUANES

PROJECT NAME AND LOCATION:	SHEET CONTENT:	PREPARED:	REVIEWED:	SUBMITTED:	RECOMMENDED:	APPROVED:	SET NO.	SHEET NO.
ORGANIZATIONAL OUTCOME 1 : Ensure Safe and Reliable National Road System - Asset Preservation Program - Rehabilitation/ Reconstruction of Roads with Slips, Slope Collapse, and Landslide - Secondary Roads - Catanduanes Cir Rd - K0102 + 214 - K0102 +254 Catanduanes Cir Rd, Catanduanes	DPWH STANDARD PROJECT BILLBOARD, COA STANDARD PROJECT SIGNBOARD, TRAIN BRANDING, MISCELLANEOUS NOTES	**MARK RONALD D. SUAISO** ENGINEER I DATE:	**JOSE T. VARGAS** ENGINEER II DATE:	**ROSANA T. CAMACHO** CHIEF, PLANNING AND DESIGN SECTION DATE:	**JOY AGNES S. NACHOR** OIC - ASST. DISTRICT ENGINEER DATE:	**SIMON N. ARIAS** DISTRICT ENGINEER DATE:	1 - E	

UPDATED MATERIALS SOURCE MAP 2023



LEGEND:

=	VIRAC	=	BATO	=	PANDAN	=	SAN MIGUEL
=	BAGAMANOC	=	CARAMORAN	=	PANGANIBAN	=	VIGA
=	BARAS	=	GIGMOTO	=	SAN ANDRES	=	VIRAC

01 / 3435 **MATERIALS SOURCE MAP**

SCALE NTS

SUMMARY OF MATERIALS SOURCE

No.	SOURCE LOCATOR: MUNICIPALITY	BARANGAY	MATERIALS SOURCE NEAREST DISTANCE FROM DPWH CAT DEO: STATIONS	IN DISTANCE	GRID COORDINATE: LATITUDE	LONGITUDE
1	SAN MIGUEL	PAGSANGAHAN	K0024+352	26.479 Km via Bato - San Miguel - Viga Road	13° 43' 28.57"N	124° 17' 08.75"E
2		KILIKILIHAN	K0021+800	23.927 Km via Bato - San Miguel - Viga Road	13° 42' 13.86"N	124° 16' 56.49"E
3		MABATO	K0020+900	23.027 Km via Bato - San Miguel - Viga Road	13° 41' 22.10"N	124° 18' 06.54"E
4	SAN ANDRES	MANAMBRAG	K0161+374	41.026 Km via Virac - San Andres Road	13° 43' 41.47"N	124° 06' 28.89"E
5		HILAWAN	K0163+749	38.651 Km via Virac - San Andres Road	13° 42' 35.86"N	124° 06' 07.88"E
6		MAYNGAWAY	K0170+487	31.913 Km via Virac - San Andres Road	13° 41' 07.77"N	124° 03' 37.34"E
7	VIGA	SAGRADA	K0045+473	47.600 Km via Bato - San Miguel - Viga Road	13° 43' 28.57"N	124° 16' 12.61"E
8		MAGSAYSAY	K0083+700	85.827 Km Km via Bato - San Miguel - Viga - Gigmoto Road	13° 52' 37.26"N	124° 20' 41.58"E
9	BATO	SIPI	K0006+324	8.451 Km via Virac - Bato Road	13° 36' 26.41"N	124° 17' 41.03"E
10	VIRAC	STO DOMINGO		3.981 Km via Virac - San Andres Road	13° 35' 31.02"N	124° 11' 05.21"E
11		SIMAMLA		6.4 Km via Virac - Sandres CCR 5.3 Km via Simamla Brgy. Road	13° 36' 15.77"N	124° 10' 04.79"E
12		BUYO RIVER		4.7 Km via Virac - San Andres CCR 6.2 Km via Hicming - Buyo Provincial Road	13° 38' 07.56"N	124° 10' 44.74"E
13		ACS CRUSHER		3.5 Km Virac - San Andres CCR 2.5 Km. via Valencia Brgy. Road	13° 36' 15.76"N	124° 10' 04.79"E
14	CARAMORAN	SALVACION HITOMA	K0151+701	50.699 Km via San Andres - Caramoran Pandan Road	13° 46' 19.90"N	124° 08' 34.78"E
15		TUCAO	K0119+650	82.750 Km via San Andres - Caramoran Pandan Road	13° 59' 16.48"N	124° 08' 59.69"E
16		STO DOMINGO ALBAY		SEE REMARKS FOR INFO.	13°13' 49.00"N	124° 45' 39.00"E

SUMMARY OF MATERIALS SOURCE

No.	SUMMARY OF QUANTITY: SAND (cu.m)	GRAVEL (cu.m)	BOULDERS/ COBBLES (cu.m)	REMARKS
1	1,000 cu. m	1,500 cu. m		Materials Source Located at San Miguel - Viga Catanduanes Circumferential Road Up/Down Stream of Pagsangahan Bridge
2	1,000 cu. m	3,500 cu. m	80cu. m	Materials Source Located at San Miguel - Viga Catanduanes Circumferential Road Side.
3	3,000 cu. m	17,000 cu. m		Materials Source Located at San Miguel - Viga Catanduanes Circumferential Road Side going to Barangay Proper, approximately 100 meters from CCR.
4	500 cu. m	2,500 cu. m	100 cu. m	Materials Source Located at San Andres - Virac Catanduanes Circumferential Road Up/Down Stream of Manambrag Bridge.
5	120 cu. m	500 cu. m	60 cu. m	Materials Source Located at San Andres - Virac Catanduanes Circumferential Road Left Side Up Stream of Hilawan Bridge.
6	500 cu. m	1,500 cu. m		Materials Source Located at San Andres - Virac Catanduanes Circumferential Road Left Side Up Stream of Mayngaway Bridge.
7	500 cu. m	2,000 cu. m		Materials Source Located at San Miguel - Viga Secondary National Road Right Side.
8	500 cu. m	2,000 cu. m		Materials Source Located at Gigmoto - Viga Secondary National Road Left Side.
9	6,000 cu. m	12,000 cu. m		Materials Source Located at Right Side of Virac - Bato - San Miguel Catanduanes Circumferential Road, Down Stream of Bato Bridge.
10	900 cu. m	1,500 cu. m	100 cu. m	Materials Source Located at Right Side of Virac-San Andres Provincial Road, Up Stream of Pajo River.
11	12,000 cu. m	30,000 cu. m	15 cu. m	Materials Source Located at Right Side of Virac - San Andres CCR More or Less 12 Km. via Hicming Buyo Provincial Road.
12	13,000 cu. m	28,000 cu. m	100 cu. m	Materials Source Located at Right Side of Virac - San Andres CCR More or Less 12 Km. via Hicming Buyo Provincial Road.
13	15,000 cu. m	30,000 cu. m		Materials Source Located at Left Side of San Andres CCR Right Side Brgy. Valencia Road.
14	5,000 cu. m	20,000 cu. m	100 cu. m	Materials Source Located at Caramoran - San Andres Catanduanes Circumferential Road, Up/Down Stream of Hitoma Bridge
15	1,500 cu. m	4,500 cu. m	250 cu. m	Materials Source Located at pandan - Caramoran Catanduanes Circumferential Road, approximately 400 meter from CCR National Road.
16	100,000 cu. m	200,000 cu. m	50,000 cu. m	FROM DPWH CAT DEO SAN ANDRES PORT (14.2 Km.), SAN ANDRES TO PORT TO TABACO PORT (29.157 Nautical Miles), TABACO PORT TO STO. DOMINGO SOURCE (16.10 Km.)

NOTES:

1. NO MORE REPLENISHMENT DURING HIGH FLOODS, PREVIOUSLY AND CURRENTLY USED IN (CY 2019) INFRA PROJECT ROAD CONCRETING AND CONSTRUCTION OF FLOOD CONTROL STRUCTURES, FINE AND COURSE AGGREGATES MUST BE WASHED AND SCREENED.
2. FOR CY 2020 DPWH INFRA PROJECTS AGGREGATES WILL BE SOURCE OUT FROM MAINLAND ALBAY.
3. LOCAL AGGREGATES WILL BE USED FOR PRIVATE AND LGU PROJECTS.

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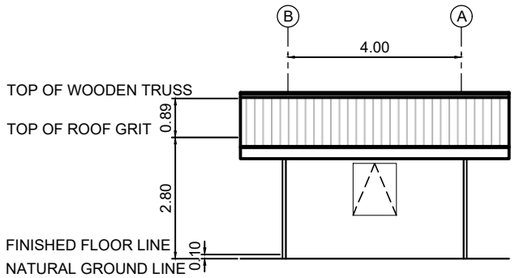
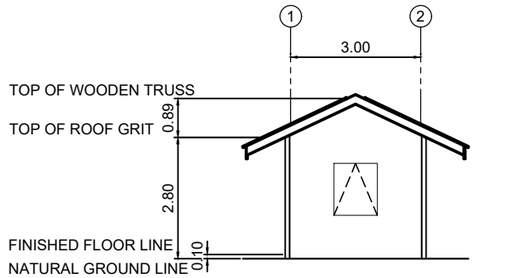
SHEET CONTENT:
MATERIALS SOURCE MAP, TABLE SUMMARY OF MATERIALS SOURCE, MISCELLANEOUS NOTES

PREPARED:	REVIEWED:	SUBMITTED:	RECOMMENDED:	APPROVED:	SET NO.	SHEET NO.
MARK RONALD D. SUAISO, ENGINEER I	JOSE T. VARGAS, ENGINEER II	ROSANA T. CAMACHO, CHIEF, PLANNING AND DESIGN SECTION	JOY AGNES S. NACHOR, OIC - ASST. DISTRICT ENGINEER	SIMON N. ARIAS, DISTRICT ENGINEER	1 - E	
DATE:	DATE:	DATE:	DATE:	DATE:		

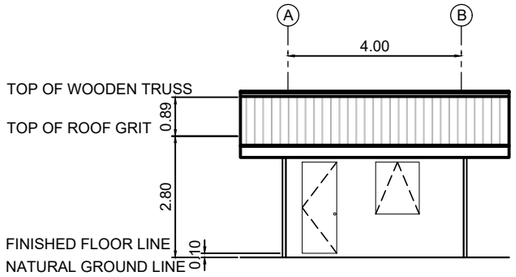
DETAILS OF FIELD OFFICE FOR ENGINEER (RENTAL BASIS)



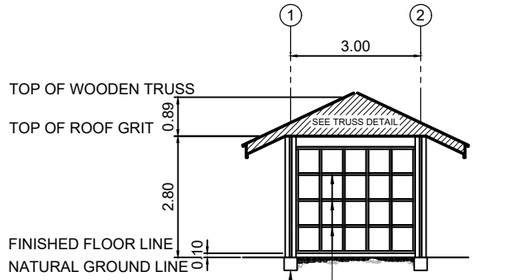
1a 35|35 **REAR ELEVATION**



1c 35|35 **RIGHT/LEFT SIDE ELEVATION**



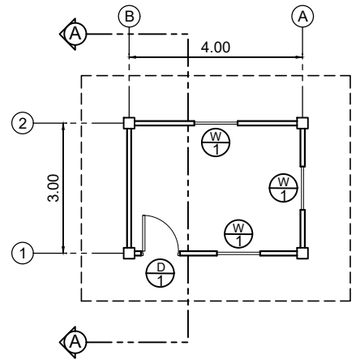
1b 35|35 **FRONT ELEVATION**



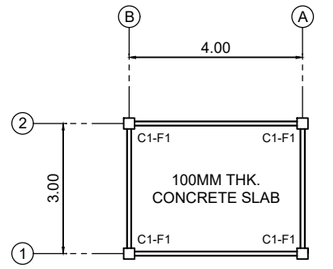
300X300X300MM CONCRETE BASE WITH 3MM Ø BARS EACHWAYS & 2-10 X 37.5 X 400MM FLAT BAR WOOD STRAPS WITH 1-12MMØ BOLTS TYPICAL

50X50MM VERT. & HOR. COCO LUMBER STUDS @ 600MM O.C. 6MM THK. MARINE PLYWOOD WALL EXTERNAL WALL - (ONE FACE ONLY)

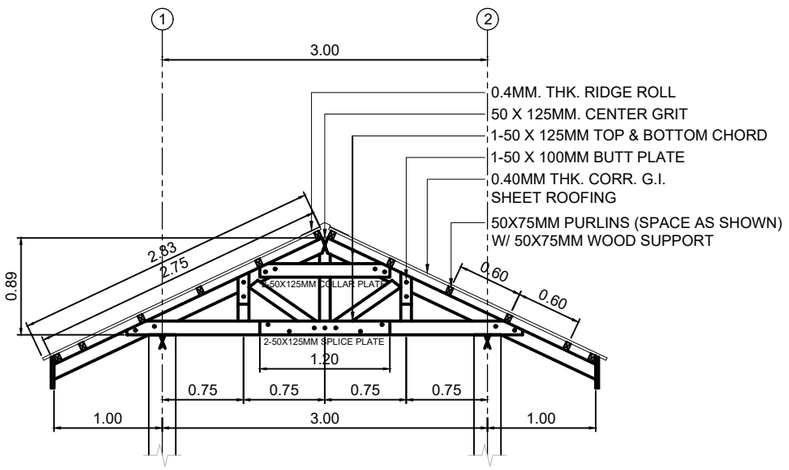
1d 35|35 **SECTION THRU "A"**



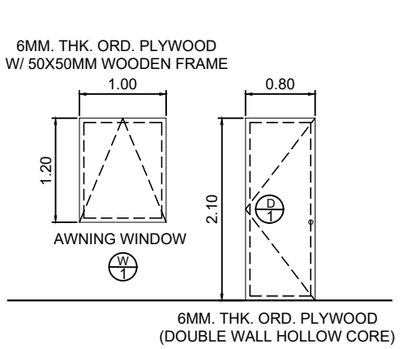
1e 35|35 **FLOOR PLAN**



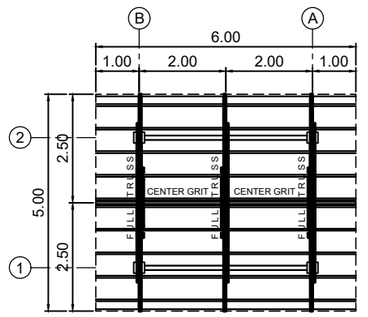
1f 35|35 **FOUNDATION PLAN**



1g 35|35 **DETAIL OF WOODEN TRUSS**



1h 35|35 **SCHED. OF DOOR & WINDOW**



1i 35|35 **ROOF FRAMING PLAN**

01 35|35 **FIELD OFFICE FOR ENGINEER**

NOTES:

FACILITIES FOR ENGINEER

- THE CONTRACTOR SHALL PROVIDE AND MAINTAIN FIELD OFFICES AND TESTING LABORATORIES, INCLUDING ALL THE NECESSARY ELECTRICITY, WATER, DRAINAGE AND TELEPHONE SERVICES FOR THE USE OF THE ENGINEER AND HIS STAFF.
- TESTING EQUIPMENT SUPPLIED IN ACCORDANCE WITH THE SPECIAL PROVISIONS SHALL BE LOCATED IN TESTING LABORATORIES AS REQUIRED BY THE ENGINEER.
- ALL OFFICES AND LABORATORIES SHALL BE READY FOR OCCUPANCY AND USE BY THE ENGINEER WITHIN TWO (2) MONTHS OF THE COMMENCEMENT OF THE WORKS.
- ALL FACILITIES PROVIDED BY THE CONTRACTOR SHALL BE NEAR THE JOB SITE, WHERE NECESSARY AND SHALL CONFORM TO THE BEST STANDARD FOR THE REQUIRED TYPES. ON COMPLETION OF THE CONTRACT, THE FACILITIES PROVIDED BY THE CONTRACTOR INCLUDING UTILITIES AND COMMUNICATION FACILITIES SHALL REVERT TO THE GOVERNMENT INCLUDING OFFICE EQUIPMENT, APPARATUS, PIECES OF FURNITURE, LABORATORY EQUIPMENT, ETC, UNLESS OTHERWISE SPECIFIED IN THE CONTRACT DOCUMENTS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE MAINTENANCE AND PROTECTION OF ALL FACILITIES TO BE PROVIDED DURING THE DURATION OF THE CONTRACT , INCLUDING PROVIDING ADEQUATE STOCK OF ALL EXPENDABLE ITEMS, SUCH AS LIGHT BULBS, LIGHT TUBES, LABORATORY EQUIPMENT AND SUPPLIES AT ALL TIMES TO ENSURE PROPER AND CONTINUOUS FUNCTIONING OF ALL ENGINEER'S FACILITIES.
- THE CONTRACTOR SHALL PROVIDE SUITABLE UTILITIES AND SERVICES, SUCH AS POTABLE WATER, ELECTRICITY, SEWERAGE AND SECURITY ON A 24-HOUR BASIS.
- THE CONTRACTOR SHALL PROVIDE QUALIFIED AND EXPERIENCED LABORATORY STAFF TO CARRY OUT ALL THE MATERIALS QUALITY CONTROL AND ALL THE TESTS SPECIFIED IN THE CONTRACT AND REQUIRED BY THE ENGINEER.
- THE TELEPHONE SERVICE, IF REQUIRED IN THE CONTRACT SHALL HAVE A SEPARATE CONNECTION DIRECT TO THE TELEPHONE COMPANY'S TELEPHONE EXCHANGE SINGLE LINE FOR THE EXCLUSIVE USE OF THE ENGINEER AND HIS STAFF.
- THE CONTRACTOR SHALL PROVIDE, IF REQUIRED IN THE CONTRACT, A TWO-WAY RADIO COMMUNICATION SERVICE.
- ANY PORTABLE OFFICES REQUIRED IN THE CONTRACT SHALL BE DISMANTLED MOVED AND ERECTED FROM TIME TO TIME AS DIRECTED BY THE ENGINEER.
- ALL OFFICES, STORES, AND TESTING LABORATORIES SHALL BE PROFICIENTLY GUARDED AT ALL TIMES OF THE DAY AND NIGHT, REGULARLY AND PROPERLY CLEANED, ADEQUATELY SUPPLIED AND MAINTAINED FOR THE DURATION OF THE CONTRACT.
- ALL DETAILED DRAWINGS FOR FIELD OFFICE ARE FOR REFERENCES ONLY.

REPUBLIC OF THE PHILIPPINES
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CATANDUANES DISTRICT ENGINEERING OFFICE
VIRAC, CATANDUANES

PROJECT NAME AND LOCATION:	SHEET CONTENT:	PREPARED:	REVIEWED:	SUBMITTED:	RECOMMENDED:	APPROVED:	SET NO.	SHEET NO.
ORGANIZATIONAL OUTCOME 1 : Ensure Safe and Reliable National Road System - Asset Preservation Program - Rehabilitation/ Reconstruction of Roads with Slips, Slope Collapse, and Landslide - Secondary Roads - Catanduanes Cir Rd - K0102 + 214 - K0102 +254 Catanduanes Cir Rd, Catanduanes	DETAILS OF TEMPORARY FIELD OFFICE, MISCELLANEOUS NOTES	**MARK RONALD D. SUAISO** ENGINEER I DATE:	**JOSE T. VARGAS** ENGINEER II DATE:	**ROSANA T. CAMACHO** CHIEF, PLANNING AND DESIGN SECTION DATE:	**JOY AGNES S. NACHOR** OIC - ASST. DISTRICT ENGINEER DATE:	**SIMON N. ARIAS** DISTRICT ENGINEER DATE:	1 - E	