

ENGINEERING STANDARDS

City of Mountlake Terrace



Effective April, 2001

SECTION – 5

MISC.

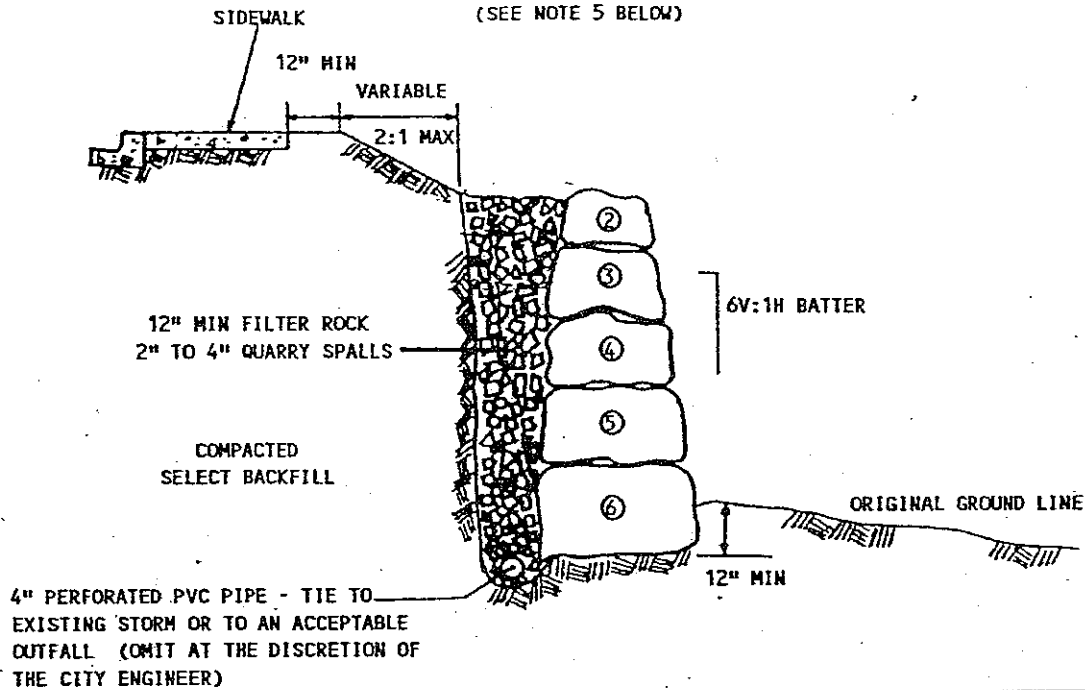
ENGINEERING STANDARDS

SECTION 5 – MISCELLANEOUS

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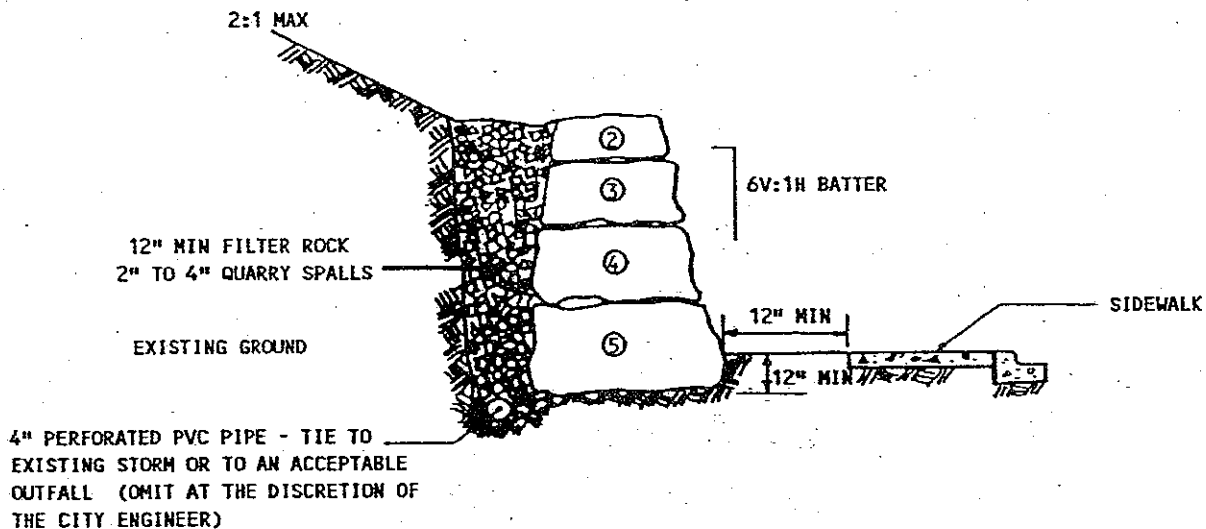
FILL ROCKERY

(SEE NOTE 5 BELOW)



CUT ROCKERY

(SEE NOTE 5 BELOW)



NOTES:

1. The long dimension of the rock shall extend into earth to provide maximum stability.
2. Each rock shall be placed so as to bear on at least two rocks below it.
3. Five or six man rocks shall be used as a base for all rock faces over six feet in height.
4.
 - ② man rock - 250 to 750 pounds
 - ③ man rock - 750 to 2000 pounds
 - ④ man rock - 2000 to 4000 pounds
 - ⑤ man rock - 4000 to 6000 pounds
 - ⑥ man rock - 6000 to 8000 pounds
5. All fill rockeries over 4 feet in height and all cut rockeries over 8 feet in height must be designed and inspected by a Licensed Professional Engineer whose main field of practice is geotechnical engineering. The engineer must certify to the City that the rockery was installed in accordance with ARC rockery standards.

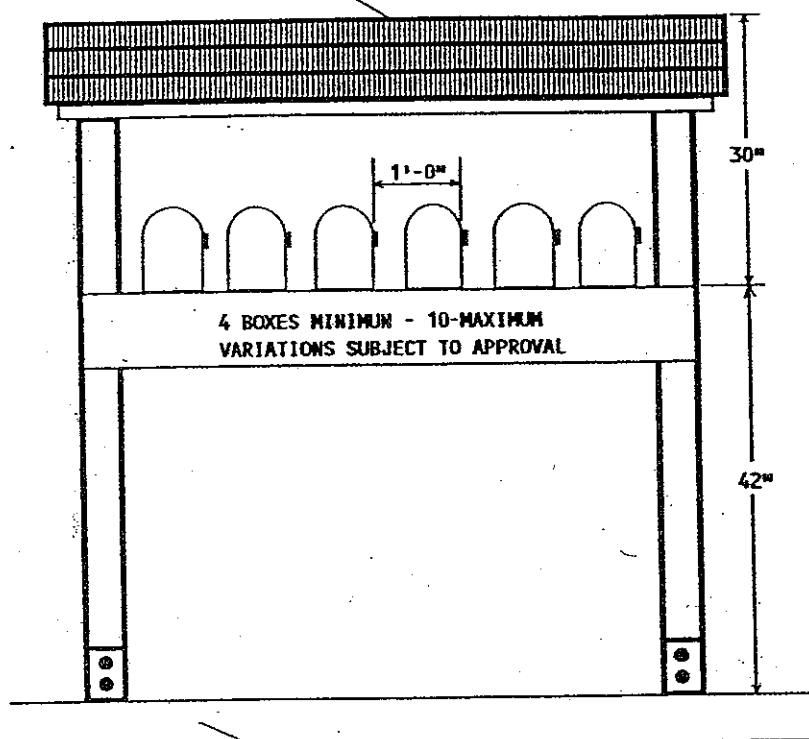


ROCKERY DETAIL

STANDARD PLAN 501

REVISION DATE 11/93

3/4" PLYWOOD SHEETING UNDER ROOFING MATERIAL



FACE OF CURB
FRONT VIEW

3-TAB COMPOSITION ROOFING
OR CEDAR SHAKES

COVER GABLE ENDS
WITH 3/4" EXTERIOR
PLYWOOD TRIANGLE
24" WIDE x 6"
HIGH

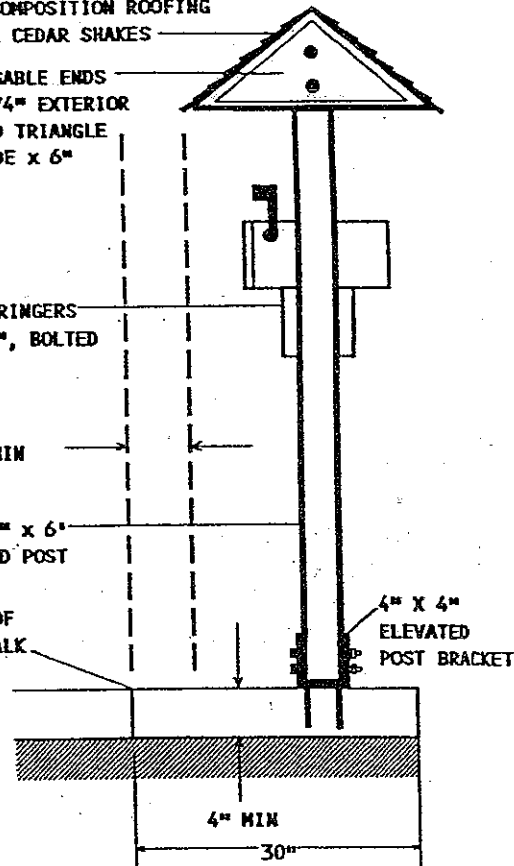
TWO STRINGERS
2" x 6", BOLTED

6" MIN

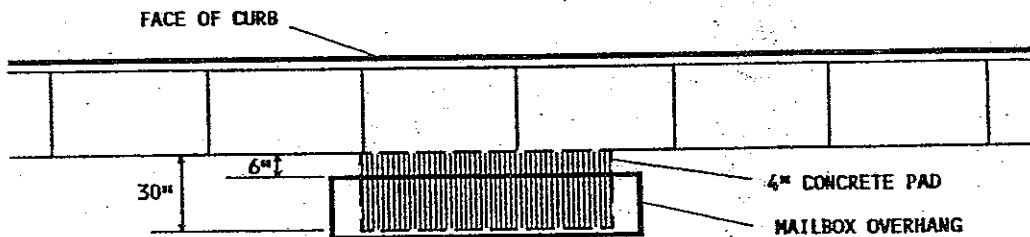
4" x 4" x 6"
TREATED POST

BACK OF
SIDEWALK

4" x 4"
ELEVATED
POST BRACKET



SECTION



PLAN VIEW

- NOTES:
1. Mailbox must be "approved by the Postmaster General" with a uniform box style and method of address identification.
 2. Location is subject to approval by the City for protection of sight area distances and access, and is to be shown on street improvement plans and landscape drawings when required.
 3. The sketch depicts a minimum structural and dimensional standard. Alternative designs and materials that provide a functional mailbox stand are acceptable, subject to approval by the City.
 4. Mailboxes within private developments may be located adjacent to curbing provided that adequate pedestrian and vehicle access is provided.

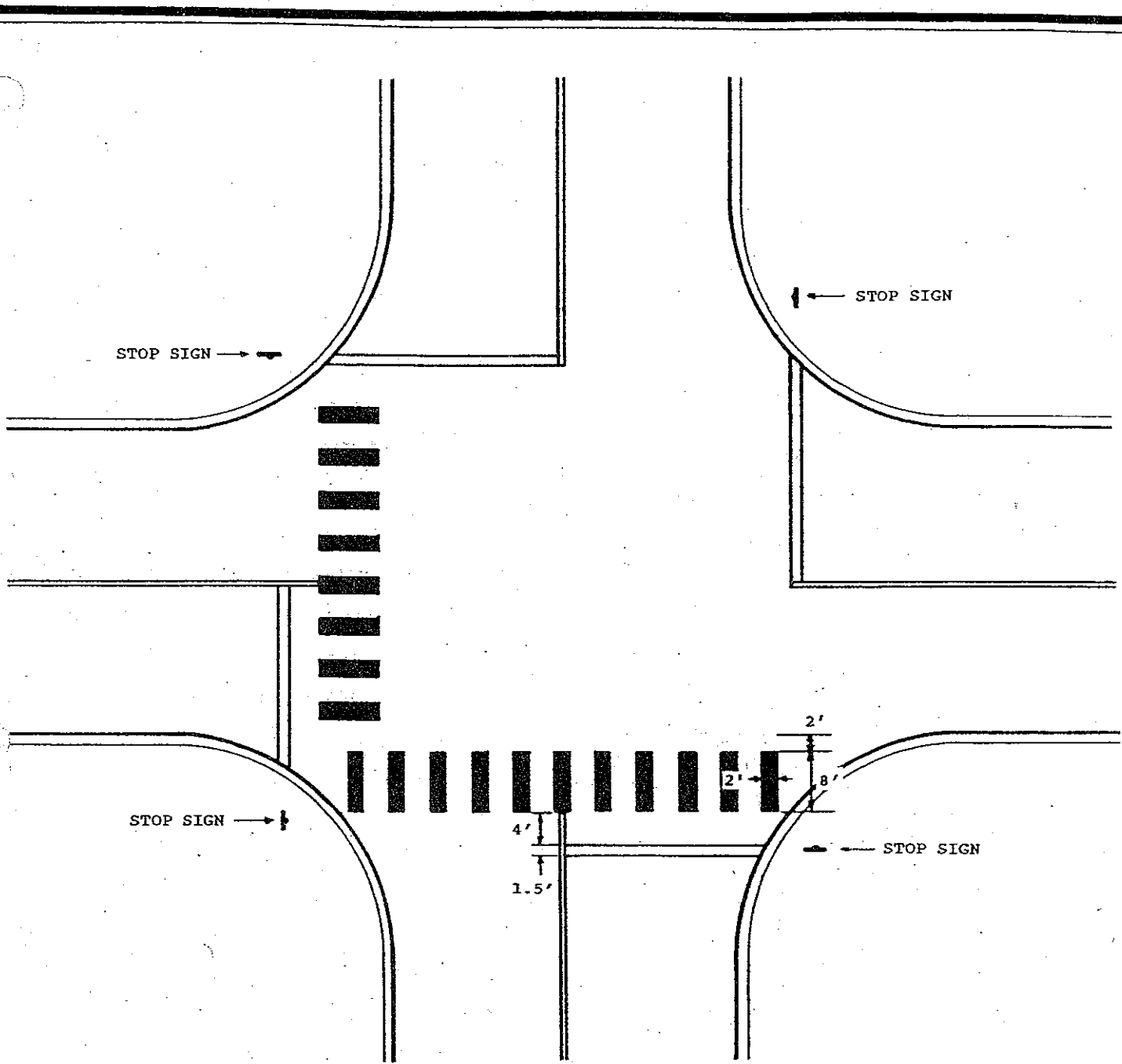
MAILBOX STAND



COMMUNITY DEVELOPMENT

STANDARD PLAN 502

REVISION DATE 11/93



NOTES:

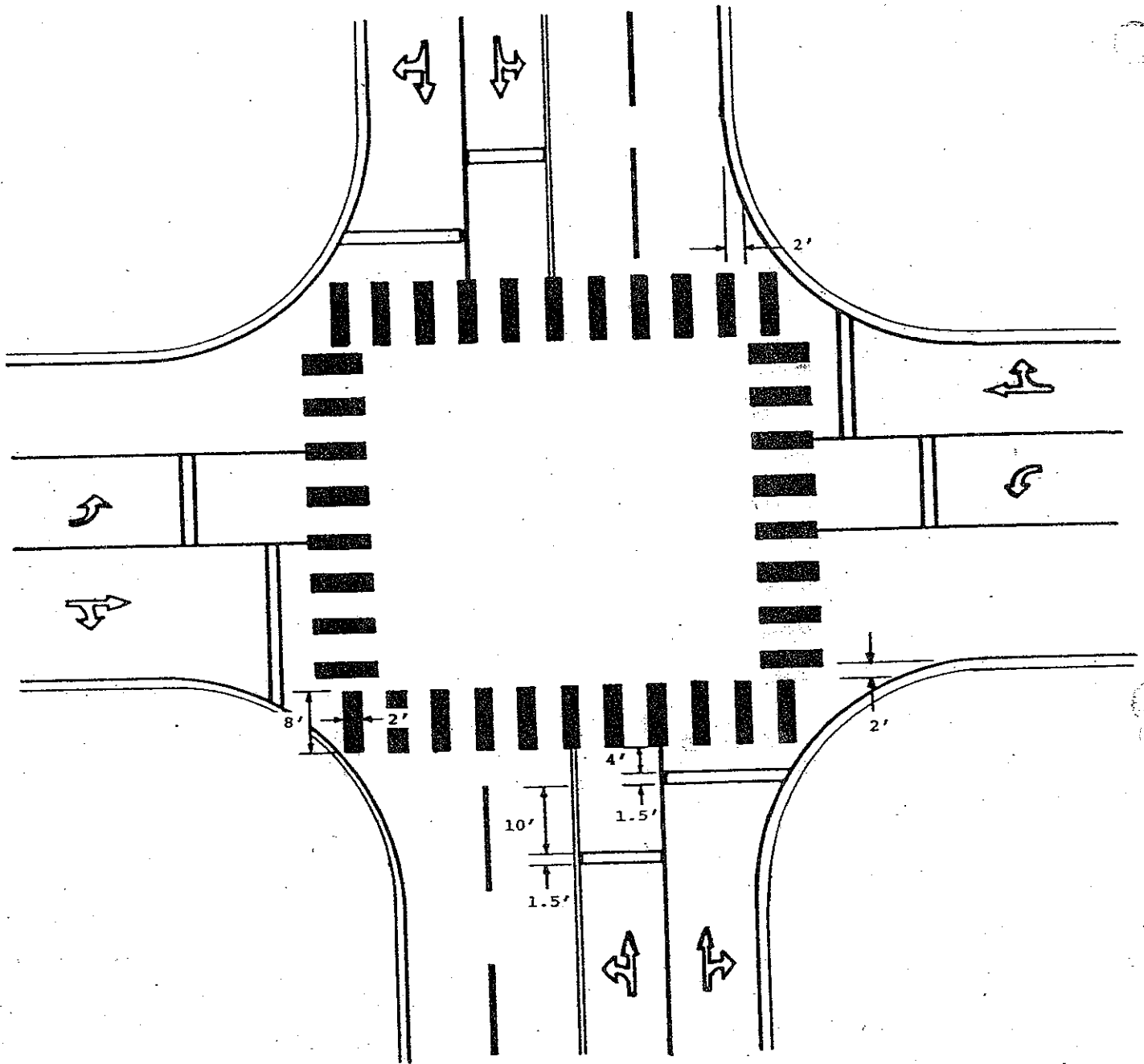
1. Crosswalk bars shall be set back 2'-0" from and run parallel to face of curb. They shall be 2'-0" wide and 8'-0" long and spaced 5'-6" on center, or to avoid wheel tracks.
2. Stop bars shall be placed 14'-0" back of and run parallel to face of curb of the intersecting street, or 4'-0" in advance of and parallel to the nearest crosswalk bars.

**CROSSWALK & STOP BAR DELINEATION
CONTROLLED INTERSECTIONS**



STANDARD PLAN 503

REV. DATE 11/93



NOTES:

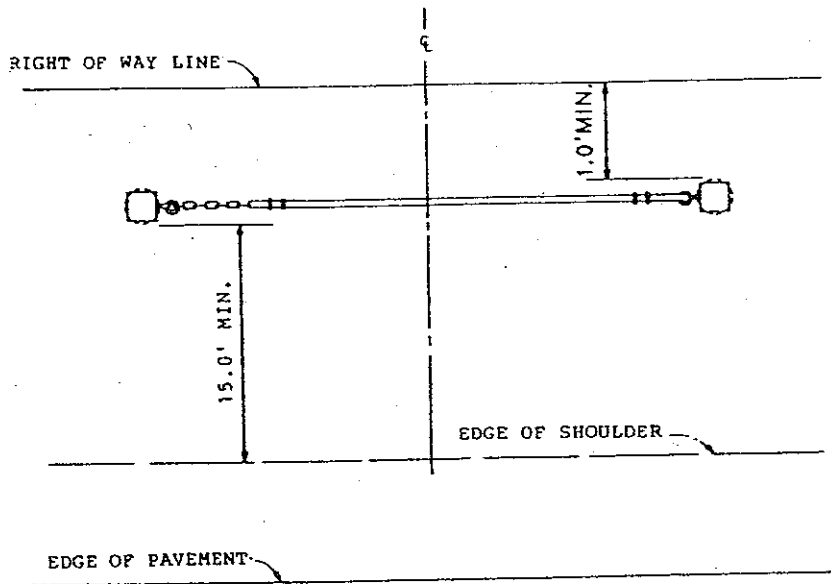
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**CROSSWALK & STOP BAR DELINEATION
CONTROLLED INTERSECTIONS**

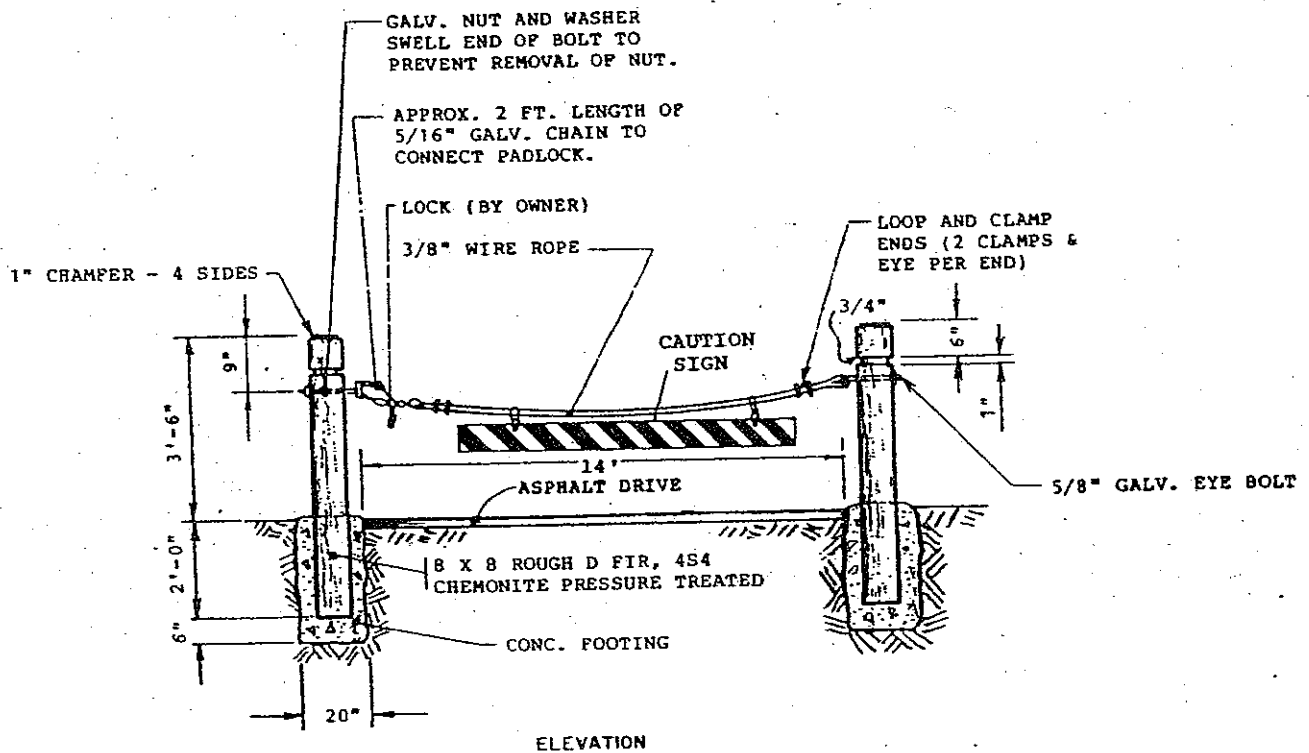


STANDARD PLAN 504

REV. DATE 11/93



PLAN



ELEVATION

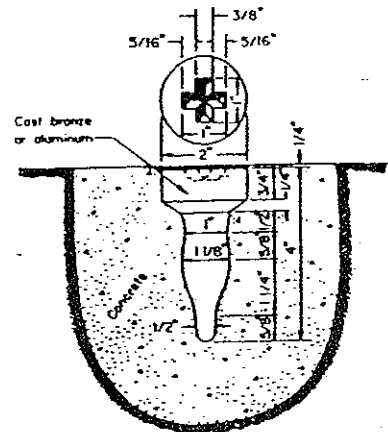
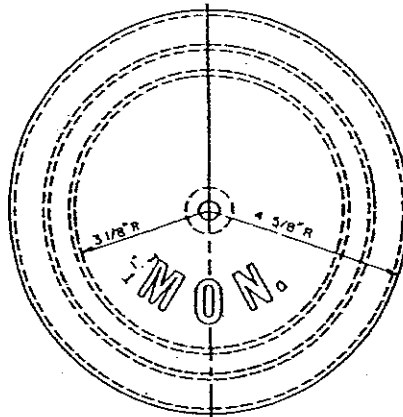
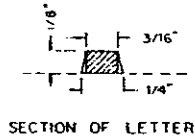
NOTES:

Posts for access control gates shall be treated timber posts or galvanized steel posts as used for guardrail. Only one type of post shall be used on any one project.

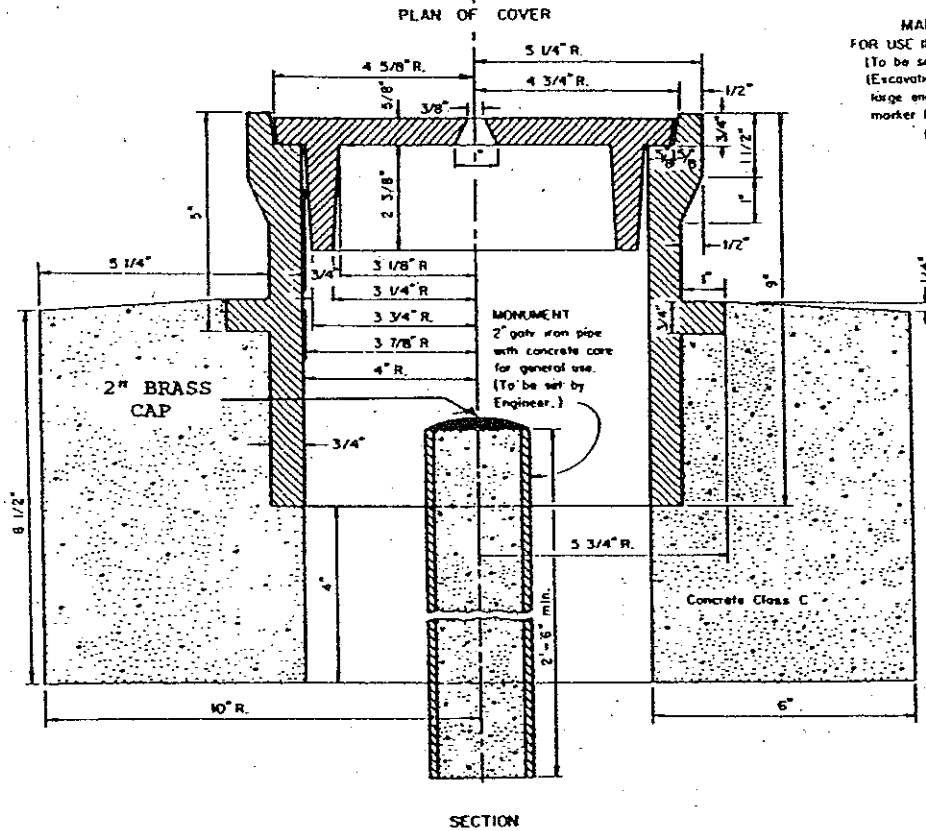
The lock (to be furnished by others) will be placed on the side of the gate which will be of the most convenience to those who use the gate.

ACCESS CONTROL GATE





MARKER
FOR USE IN LEDGE ROCK
(To be set by Engineer)
(Excavation to be made
large enough to clear
marker 1/2" at all
points)



NOTES:

The castings shall be Gray-Iron Castings, ASTM Designation A 48, Class 40. The cover and seat shall be machined so as to have perfect contact around the entire circumference and full width of bearing surface.

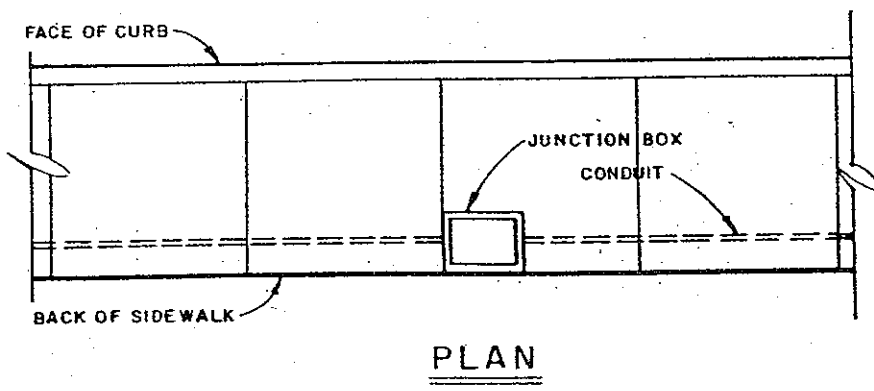
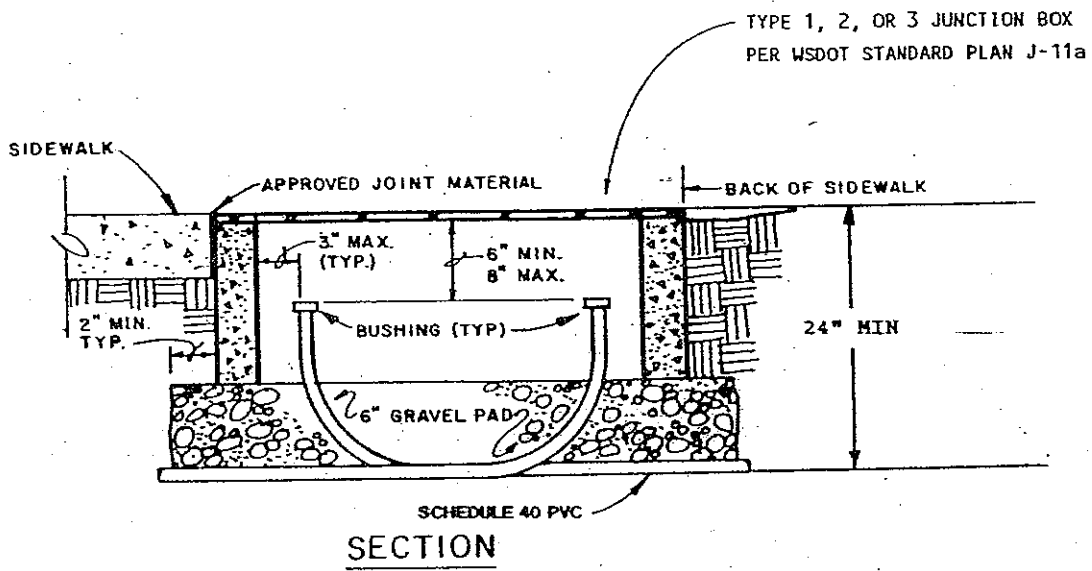
When the monument case and cover are placed in cement concrete pavement the concrete base will not be necessary.

Approximate weights:

Case	60#
Cover	19#
Total	79#

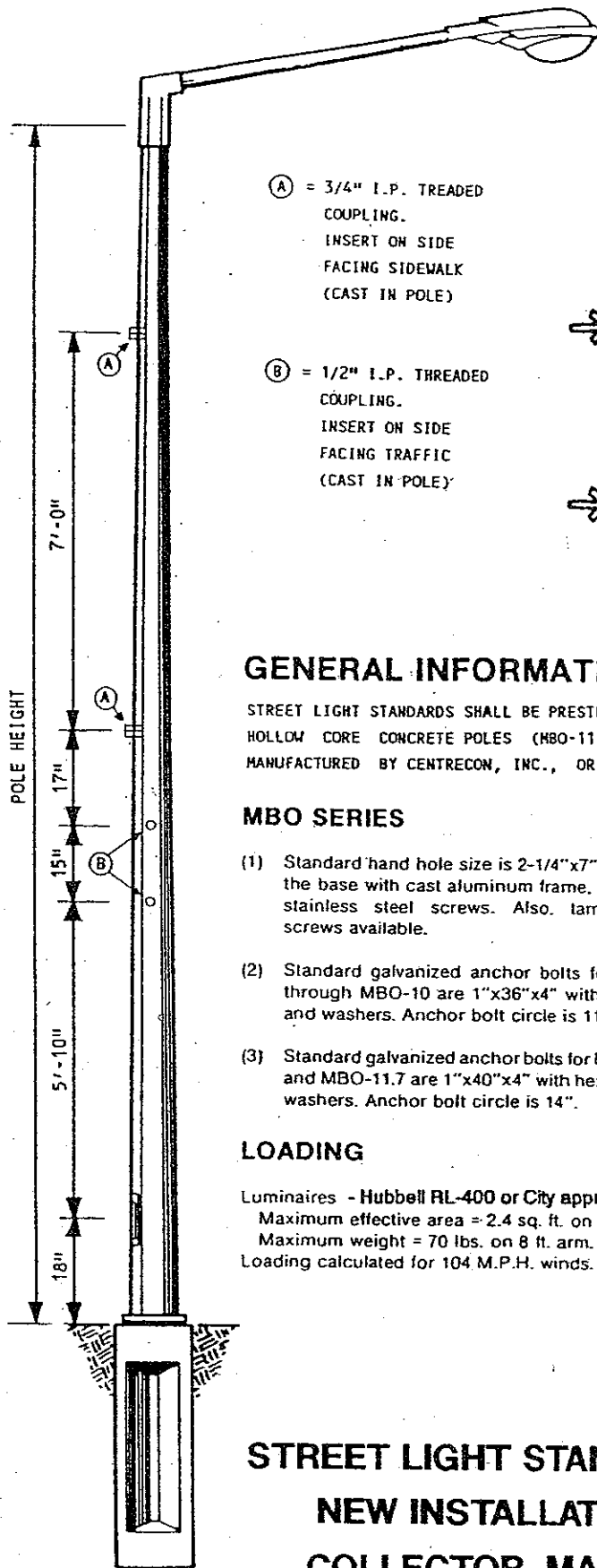
MONUMENT CASE AND COVER





**TYPICAL JUNCTION BOX
INSTALLATION DETAILS**





Ⓐ = 3/4" I.P. TREADED COUPLING. INSERT ON SIDE FACING SIDEWALK (CAST IN POLE)

Ⓑ = 1/2" I.P. TREADED COUPLING. INSERT ON SIDE FACING TRAFFIC (CAST IN POLE)

MBO MEDIUM - BASE PLATE - OCTAGONAL

Pole Designation	Pole Height Above Ground	Bottom Diameter	Bolt Circle Diameter	Ultimate G.L. Moment (ft./lbs.)	Weight (lbs.)
MBO-11.7	38'-5"	9'-3.4"	14" WITH 1"x40"x4"	27,250	1,400

APPEARANCE CODE

Aggregate and Finish	Cement Color					
	Grey	White	Buff	Green	Brown	Black
Natural Polished	# 112	# 212	# 312	# 412	# 512	# 612

GENERAL INFORMATION

STREET LIGHT STANDARDS SHALL BE PRESTRESSED, HOLLOW CORE CONCRETE POLES (MBO-11.7) AS MANUFACTURED BY CENTRECON, INC., OR EQUAL

MBO SERIES

- Standard hand hole size is 2-1/4"x7"x18" above the base with cast aluminum frame, cover and stainless steel screws. Also, tamper-proof screws available.
- Standard galvanized anchor bolts for MBO-6 through MBO-10 are 1"x36"x4" with hex nuts and washers. Anchor bolt circle is 11-1/2".
- Standard galvanized anchor bolts for MBO-10.6 and MBO-11.7 are 1"x40"x4" with hex nuts and washers. Anchor bolt circle is 14".

LOADING

Luminaires - Hubbell RL-400 or City approved equal
 Maximum effective area = 2.4 sq. ft. on 8 ft. arm.
 Maximum weight = 70 lbs. on 8 ft. arm.
 Loading calculated for 104 M.P.H. winds.

NOTES

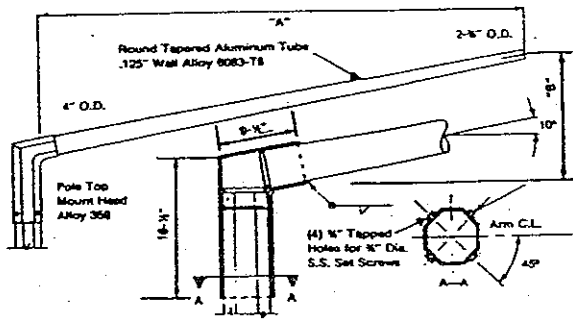
Quick disconnect connectors shall be installed at all poles supporting a luminaire. Installation shall conform to details in Standard Plans J-1d and J-1e except that the disconnects shall only be installed at the base of the pole and not in the junction box. The connectors used shall be SEC 1791-SP for the unfused connectors. Pole and bracket cable shall be used between the disconnects and luminaire. The cable shall be securely supported at the top of the luminaire extension.

STREET LIGHT STANDARDS FOR NEW INSTALLATIONS ON COLLECTOR, MAJOR AND MINOR ARTERIAL STREETS

SEE WSDOT
 STANDARD PLAN J-1B



STANDARD PLAN 508



"AD" type

Aluminum davit arm

PART DESIGNATION	POLE SHAPE	DIMENSIONS		MAXIMUM FIXTURE	
		"A"	"B"	E.P.A.	WEIGHT
MO-AD-6	octagonal	6H.	18in.	3.5 sq. ft.	80#
MO-AD-8	octagonal	8H.	22in.	1.8 sq. ft.	50#
MO-AD-10	octagonal	10H.	26in.	1.2 sq. ft.	35#
MO-AD-12	octagonal	12H.	30in.	0.8 sq. ft.	25#

NOTES

All material and work shall be in accordance with the requirements of the State of Washington, Department of Transportation, Standard Specifications for Road, Bridge Municipal Construction and current AASHTO Standard Specifications for Structural Supports, Highway Signs, Luminaires and Traffic Signals.

The foundation is designed for 2000 PSF average soil lateral bearing pressure.

Round and smooth all edges along wire-way to protect conductors. See Standard Plan "Light Standards Wiring Detail" for wiring details.

The top of the slip base or anchor bolts shall not extend more than 4" above the ground line.

The top of the anchor bolts shall be galvanized a minimum of 12" in accordance with AASHTO M 111. The top end of the anchor bolts shall be threaded a minimum of 5/4". The bottom end of the anchor bolts may have either a nut with square washer, or be threaded for either a nut with square washer or a tapped anchor plate. See the Dimension Chart for washer and anchor plate sizes. Hooked anchor bolts are not allowed.

DESCRIPTION	ROADWAY DESIGNATION		
	⑤ NON-ARTERIAL	COLLECTOR ARTERIALS	MINOR ARTERIALS
① Concrete Foundation	DIRECT BURY	3'-0" x 3'-0" x 4'-6"	3'-0" x 3'-0" x 4'-6"
② Junction Boxes	BY P.U.D.	Conc. type I, II, or III	Conc. type I, II, or III
Underground Conduit	DIRECT BURY	1.5" min. SCH 40 PVC	1.5" min. SCH 40 PVC
Light Standard (Centrecon, or equal)	③ CITY APPROVED CONCRETE, STEEL, WOOD, OR FIBERGLAS	M80-11.7	M80-11.7
Height	25 FT	40 FT	40 FT
Spacing (staggered)	144 FT	150 FT	130 FT
Aluminum Davit Arm (Centrecon, or equal)	BY P.U.D.	MO-AD-10	MO-AD-12
Luminaire	④ HUBBELL, CATALOG NO. RM-CD-15538-031-0A5-F0-M53 OR CITY APPROVED EQUAL	Hubbell RL-400, or City approved equal	Hubbell RL-400, or City approved equal
Wattage	150 HPS	150 HPS	250 HPS

- ① See WSDOT STANDARD PLAN J-1B.
- ② See MLT STANDARD PLAN 508.
- ③ PUD Shall install light standards and arms.
- ④ City to install luminaires. Developer shall reimburse City for installation.
- ⑤ Lighting level of 0.7 (plus or minus .03). Maximum uniformity ratio of 6:1 or less. Include with the standard two year maintenance guarantee the full cost to re-align the poles, if necessary, during the two year period.

NOTES

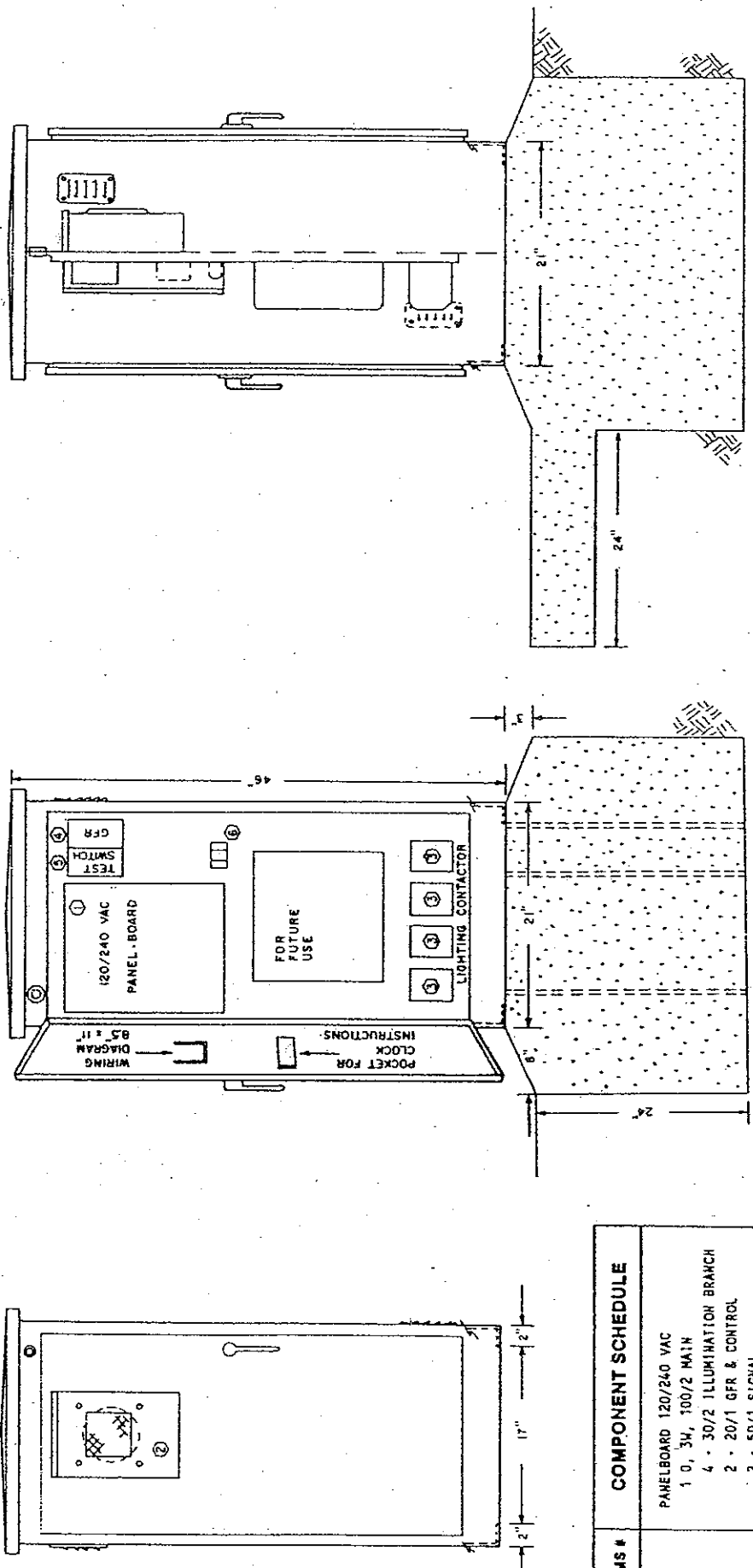
- 1. Unless otherwise noted, "STANDARD PLAN" shall mean "Wash. State Dept. of Trans. Standard Plans for Road and Bridge Construction", or "Mountlake Terrace Engineering Standards".
- 2. One photocell and one bypass switch shall be installed per lighting system. See WSDOT Standard Plans for meter base, service cabinet, and wiring requirements.
- 3. Backfill 12" around the pole with crushed surfacing base course, meeting APWA Standard 9-03.9(3), compacted to 95% Modified Proctor.



**STREET LIGHT STANDARD
FOR NEW INSTALLATIONS**

STANDARD PLAN 508

LIGHT CONTACTOR CABINET



NOTES

- LIGHT CONTACTOR CABINET - NEMA 3R - PADMOUNT
- REMOVABLE MOUNTING PAN ON PANELBOARD SIDE
- SCREENED & GASKETED VENTS
- DOORS: CONCEALED HINGE, 3 POINT LATCH, CLOSED CELL NEOPRENE GASKET, LIFT-OFF TYPE, PADLOCKABLE VAULT HANDLES
- WIRE MESH GLASS WINDOW ON METER SIDE
- #12 GA. HOT ROLL STEEL CONSTRUCTION
- PAINT: PRIME & ASA G1 GRAY OUTSIDE, WHITE INSIDE, BAKED ENAMEL
- WIRE PER CONTRACT DRAWING

ITEMS #	COMPONENT SCHEDULE
①	PANELBOARD 120/240 VAC 1 0, 3W, 100/2 MAIN 4 - 30/2 ILLUMINATION BRANCH 2 - 20/1 GFR & CONTROL 2 - 50/1 SIGNAL 4 - SPACES WESTINGHOUSE Q10B 10,000 AIC COPPER BUS - BOLT ON BREAKERS
②	METERBASE 100A 4 JAW
③	LIGHTING CONTACTORS, 60A, 2P, 600V, 120V COIL GOULD 2200 EB 620 AA
④	DUPLEX RECEPTACLE, 20A, 120V GROUND FAULT INTERRUPTING
⑤	TEST SWITCH TO BYPASS PHOTO CELL 10A SPST 120V
⑥	TERMINAL BLOCK 3 POINT FOR PHOTO CELL

