

# **City of Watsonville**

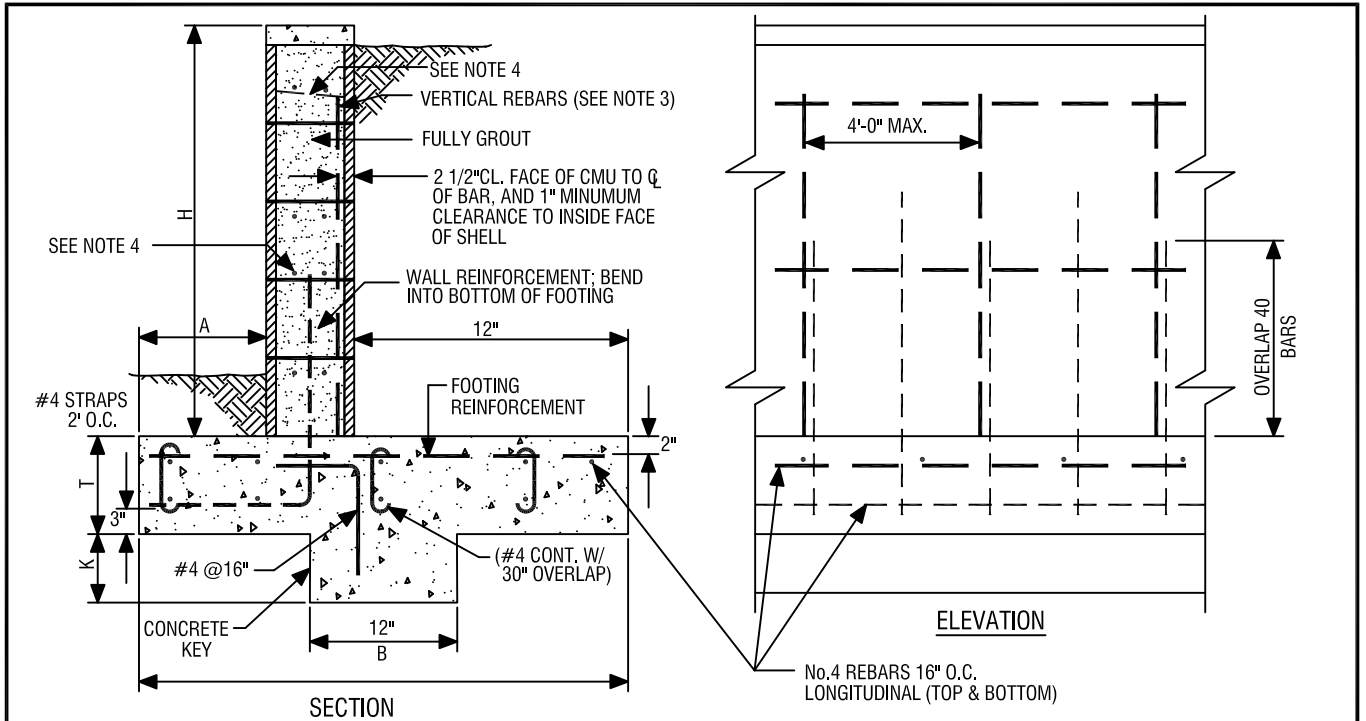
## **PUBLIC IMPROVEMENT STANDARDS**



CITY OF  
WATSONVILLE

CITY OF WATSONVILLE PUBLIC WORKS & UTILITIES DEPARTMENT

MAY 28, 2013  
RESOLUTION 76-13 (CM)



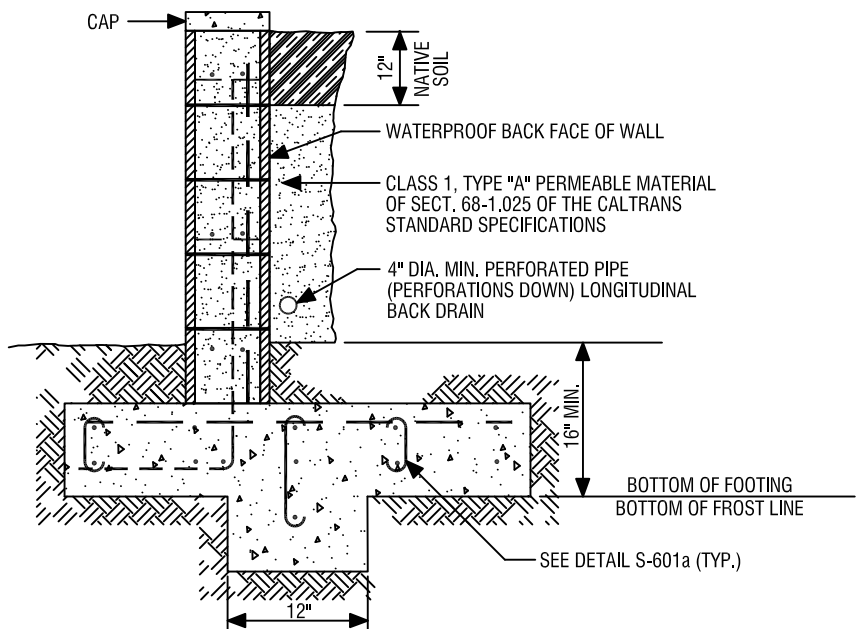
BLOCK WIDTH	H	A	B	T	WALL REINFORCEMENT	FOOTING REINFORCEMENT	K
8"	3'-4"	1'-0"	2'-8"	12"	#4 @ 24" O.C.	#4 @ 24" O.C.	12"
	4'-0"	1'-4"	3'-0"		#4 @ 24" O.C.	#4 @ 24" O.C.	15"
	4'-8"	1'-7"	3'-3"		#4 @ 16" O.C.	#4 @ 24" O.C.	16"
	5'-4"	2'-0"	3'-8"		#5 @ 8" O.C.	#4 @ 16" O.C.	16"
12"	3'-4"	0'-8"	2'-8"	12"	#4 @ 24" O.C.	#4 @ 24" O.C.	12"
	4'-0"	1'-0"	3'-0"		#4 @ 24" O.C.	#4 @ 24" O.C.	15"
	4'-8"	1'-3"	3'-3"		#4 @ 24" O.C.	#4 @ 24" O.C.	16"
	5'-4"	1'-8"	3'-8"		#4 @ 24" O.C.	#4 @ 16" O.C.	16"
	6'-0"	2'-2"	4'-2"		#4 @ 16" O.C.	#5 @ 16" O.C.	18"
	6'-8"	2'-6"	4'-6"		#5 @ 16" O.C.	#5 @ 16" O.C.	20"
	7'-4"	3'-0"	5'-0"		#5 @ 8" O.C.	#5 @ 8" O.C.	24"
	8'-0"	3'-4"	5'-6"		#8 @ 8" O.C.	#5 @ 8" O.C.	24"

**NOTES:**

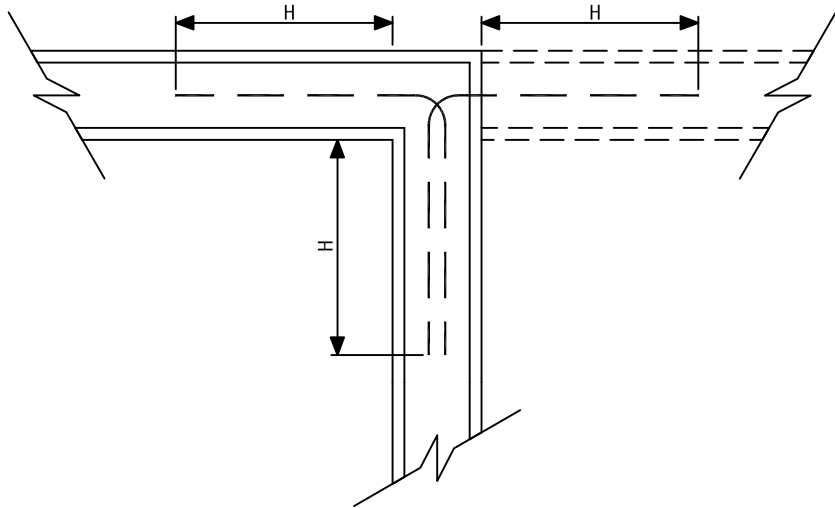
- ALL RETAINING WALLS SHALL BE MASONRY.
- EDGE OF ROADWAY, DRIVEWAY & FOUNDATIONS SHALL BE AT LEAST 2 x HEIGHT OF WALL FROM BACK OF WALL
- REINFORCING BARS SHOULD HAVE STANDARD DEFORMATION AND A YIELD STRENGTH OF 40,000 PSI
- ALTERNATE VERTICAL REINFORCING BARS MAY BE TERMINATED AT THE UPPER THIRD-POINT OF THE WALL HEIGHT
- ALL RETAINING WALLS SHALL HAVE A HORIZONTAL BOND BEAM W/ TWO No.4 BARS EVERY 16".
- WEIGHT OF ASSUMED SOIL BACKFILL (GRANULAR SOIL WITH CONSPICUOUS CLAY CONTENT) IS 100 PCF AND EQUIVALENT FLUID PRESSURE IS 45 PCF. THE WALL IS NOT DESIGNED TO BE SURCHARGED, AND THE MAXIMUM SOIL BEARING PRESSURE IS 1,000 P.S.F.
- THE LAST 30" OF GROUT SHALL BE CONSOLIDATED BY A HIGH-FREQUENCY INTERNAL VIBRATOR WITHIN 5 MINUTES OF POURING INTO BLOCK. THE VIBRATOR SHALL NOT BE ATTACHED TO OR HELD AGAINST THE BLOCK OR REINFORCING STEEL.
- GROUT SHALL BE PLACED IN ALL CELLS. GROUT SHALL HAVE A 28 DAY COMPRESSIVE STRENGTH OF 2,500 PSI.
- SEE SHEET S-601b FOR BACKFILL DETAIL.
- MASONRY UNITS SHALL BE GRADE "N".
- WET SETTING OF THE BLOCKS INTO THE CONCRETE IS FORBIDDEN
- ALL CONCRETE FOOTINGS & KEYS SHALL HAVE A 28 DAY COMPRESSIVE STRENGTH OF 2,500 PSI.

CITY OF WATSONVILLE PUBLIC WORKS & UTILITIES DEPARTMENT

<p>NOT TO SCALE</p> <p>DRAWN BY: P.A.C.</p> <p>CHECKED BY: P.T.</p>	<p>CITY OF WATSONVILLE</p>	<p>STANDARD DRAWING FOR <b>STANDARD MASONRY RETAINING WALL</b></p> <p><i>Maria Esther Rodriguez</i> MARIA ESTHER RODRIGUEZ, CITY ENGINEER</p>	<p>DRAWN: 10/97</p>	<p>REV.: 4/13</p>
			<p>RESOLUTION: 76-13 (CM)</p>	
			<p>DRAWING No. <b>S-601a</b></p>	



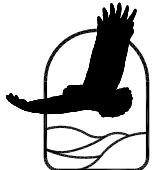
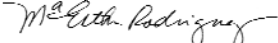
**NOTE:**  
 BACKFILL FOR RETAINING WALLS SHOULD BE MOISTURE CONDITIONED TO NEAR OPTIMUM (OPTIMUM + 3% OR HIGHER FOR CLAY BACKFILL), PLACED IN TWO 6" LIFTS & COMPACTED TO 90% OF THE MAXIMUM DENSITY DETERMINED IN ACCORDANCE WITH CAL IMPACT METHOD #216. HEAVY COMPACTION EQUIPMENT SHOULD NOT BE USED IMMEDIATELY ADJACENT TO THE RETAINING WALL.

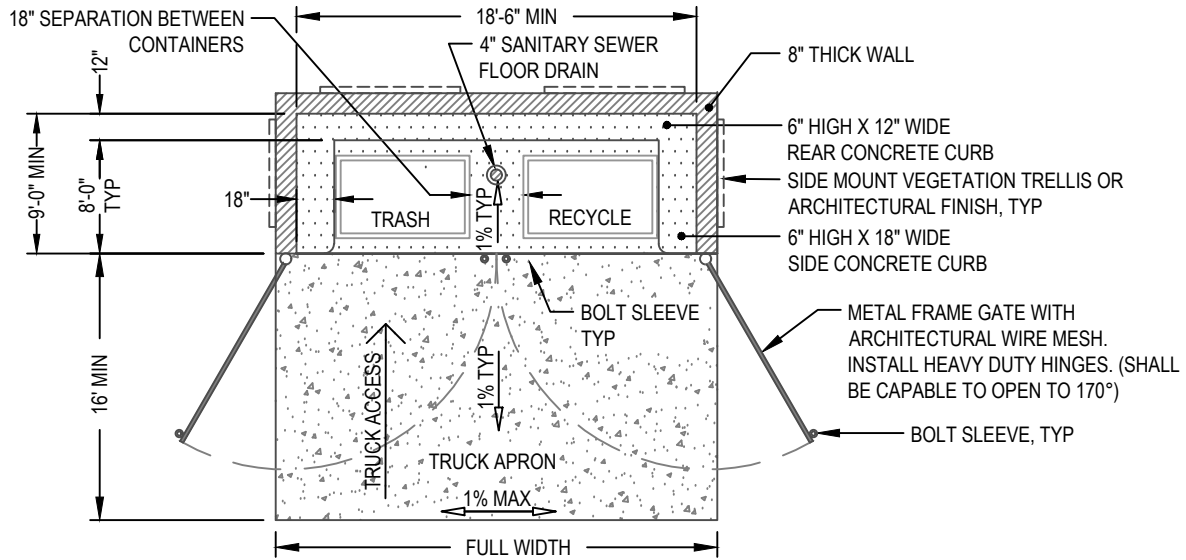


**REINFORCING AT CORNERS**

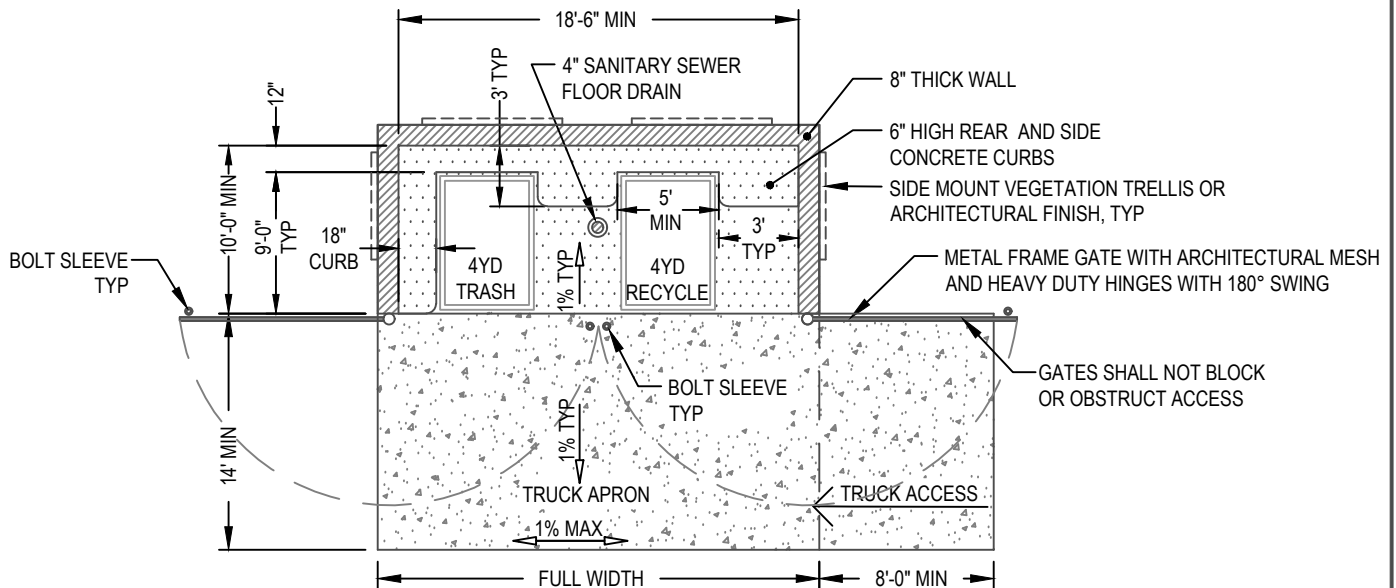
- NOTES:**
1. 8" CMU: #4 @ 16" O.C. HORIZONTAL IN BOND BEAM UNIT (CENTERED).
  2. 12" CMU: (2) #4 @ 8" O.C. HORIZONTAL (ONE EA. SIDE) IN BOND BEAM UNIT.
  3. REINFORCING SHALL BE CONTINUOUS AROUND CORNER FOR MINIMUM DISTANCE OF "H" (HEIGHT OF WALL).
  4. CORNER REINFORCEMENT IS IN ADDITION TO REQUIRED HORIZONTAL REINFORCEMENT PER S-601a

CITY OF WATSONVILLE PUBLIC WORKS & UTILITIES DEPARTMENT

NOT TO SCALE	 CITY OF WATSONVILLE	STANDARD DRAWING FOR <b>STANDARD MASONRY          RETAINING WALL</b>	DRAWN: 10/97	REV.: 4/13
DRAWN BY: P.A.C.			RESOLUTION: 76-13 (CM)	
CHECKED BY: P.T.		 MARIA ESTHER RODRIGUEZ, CITY ENGINEER	DRAWING No. <b>S-601b</b>	



**STANDARD FRONT SERVICE LAYOUT**  
NTS





**NON-STANDARD SIDE SERVICE LAYOUT**  
NTS

**NOTES:**

1. REFUSE AND RECYCLING ENCLOSURES SHALL SECURE PERMITS FROM THE COMMUNITY DEVELOPMENT DEPARTMENT.
2. THE APPLICANT SHALL HAVE THE ENCLOSURE DESIGNED TO COMPLY WITH LATEST EDITION OF THE CALIFORNIA BUILDING STANDARDS CODE.
3. CONTAINERS INFORMATION IS AVAILABLE FROM THE SOLID WASTE DIVISION CUSTOMER SERVICE AT (831) 768-3133.
4. THE REFUSE ENCLOSURE SHALL BE DESIGNED TO ACCOMMODATE FRONT LOAD SERVICE.
5. NON-STANDARD SIDE LOAD SERVICE IS SUBJECT TO STRICT REVIEW CASE-BY-CASE BASIS AND MAY ONLY BE CONSIDERED AFTER THE APPLICANT HAS DEMONSTRATED TECHNICAL INFEASIBILITY FOR FRONT LOAD SERVICE.
6. SEE DWG NO. S-602b FOR DESIGN GUIDELINES.

CITY OF WATSONVILLE PUBLIC WORKS & UTILITIES DEPARTMENT

SCALE: NTS		SOLID WASTE DIVISION STANDARD DRAWING	DRAWN: MAY 2018	REV:
DRAWN BY: TC		<b>REFUSE ENCLOSURE LAYOUT</b>	RESOLUTION: 98-18 (CM)	
CHECKED BY:		 MARIA ESTHER RODRIGUEZ, CITY ENGINEER	DWG NO. <b>S-602a</b>	

**GENERAL REQUIREMENTS:**

1. PROVIDE A GRADING PLAN AND SHOW THE LOCATION OF THE ENCLOSURE WITH TRUCK ACCESS PATH, OVERHEAD, AND LATERAL CLEARANCES.
2. **TURNING RADIUS** : SHOW 14' WIDE TRUCK ACCESS PATH WITH 34' INSIDE TURNING RADIUS AND 50' OUTSIDE TURNING RADIUS.
3. **VERTICAL CLEARANCE**: 25 FT FROM OVERHEAD IS REQUIRED OUTSIDE OF THE TRASH ENCLOSURE WHERE THE VEHICLE LIFTS THE CONTAINER.
6. THE FINAL DIMENSIONS OF THE ENCLOSURE SHALL BE DETERMINED BY THE NUMBER OF CONTAINERS (TRASH, RECYCLE, ORGANIC) AND SIZES PROPOSED FOR THE PROJECT.
7. ENCLOSURE SHALL HAVE THE FOLLOWING DESIGN ELEMENTS:
  - EXTERIOR WALL LANDSCAPING OR ARCHITECTURAL FEATURES
  - REINFORCED CONCRETE TRUCK APRON
  - SOLID ROOF COVER
  - REINFORCED CONCRETE FLOOR
  - 4" SANITARY SEWER FLOOR DRAIN
  - SEPARATE OR INDOOR TALLOW CONTAINERS AND STORAGE AREA
  - REINFORCED CMU OR CONCRETE WALLS
  - NON-COMBUSTIBLE CONSTRUCTION MATERIALS

**FRONT SERVICE LAYOUT (PREFERRED DESIGN)**

8. TRASH ENCLOSURE DIMENSIONS: 6'-6" MINIMUM HIGH WALLS, 12' MINIMUM FRONT CEILING HEIGHT, 8' MINIMUM REAR CEILING HEIGHT,
9. PROVIDE 50 FT UNOBSTRUCTED CLEAR APPROACH MEASURED FROM THE FRONT FACE OF ENCLOSURE.

**SIDE SERVICE LAYOUT (SUBJECT TO STRICT REVIEW)**

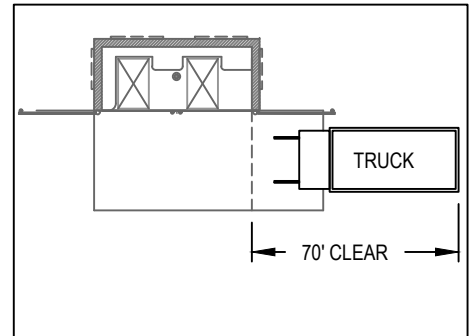
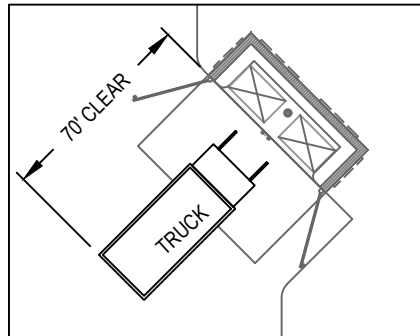
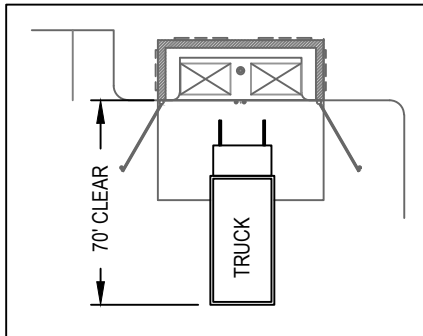
10. SIDE SERVICE DESIGN MAY ONLY BE CONSIDERED AFTER THE APPLICANT HAS DEMONSTRATED TECHNICAL INFEASIBILITY FOR FRONT LOAD SERVICE.
11. THE DESIGN IS LIMITED TO 4 YD MAXIMUM SIZE CONTAINERS AS WELL AS ADDITIONAL SERVICE FEES AND OPERATIONAL REQUIREMENTS.
12. TRASH ENCLOSURE DIMENSIONS: 6'-6" MINIMUM HIGH WALLS, 10' MINIMUM FRONT CEILING HEIGHT, 8' MINIMUM REAR CEILING HEIGHT.
13. PROVIDE 70 FT UNOBSTRUCTED CLEAR APPROACH MEASURED FROM EDGE OF THE ENCLOSURE ALONG THE VEHICLE PATH.

**DIAGRAM A**

DIRECT ACCESS  
(PREFERRED)

ANGLED DIRECT ACCESS  
(ACCEPTABLE)

NON-DIRECT ACCESS  
(SUBJECT TO STRICT REVIEW)



**STRUCTURAL**

14. THE ENCLOSURE STRUCTURAL SYSTEM SHALL BE DESIGNED AND STAMPED BY A LICENSED CIVIL ENGINEER OR ARCHITECT.
15. THE ENCLOSURE STRUCTURAL SYSTEM SHALL BE DESIGNED AND STAMPED BY A LICENSED CIVIL ENGINEER OR ARCHITECT.
16. ENCLOSURE FLOOR SHALL BE 6" THICK MINIMUM REINFORCED CONCRETE CAPABLE OF WITHSTANDING UP TO 20,000 POUNDS OF DIRECT FORCE.
17. TRUCK APRON SHALL BE 6" THICK MINIMUM REINFORCED CONCRETE DESIGNED TO WITH STAND FULLY LOADED REFUSE TRUCK, UP TO 30 TONS.



**ARCHITECTURAL & LANDSCAPING**

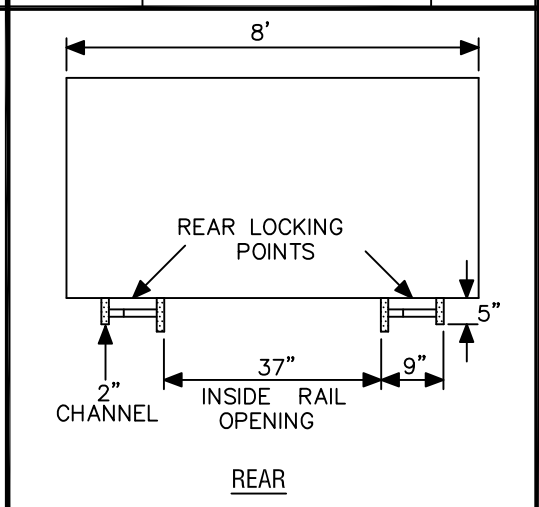
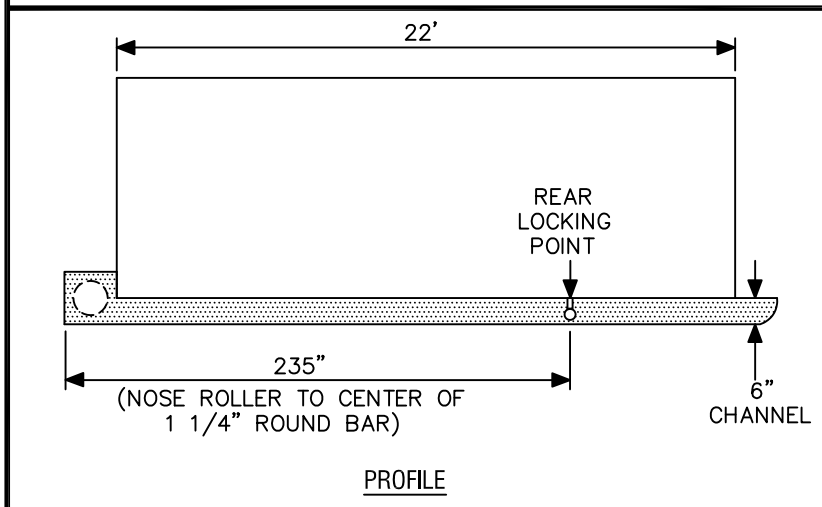
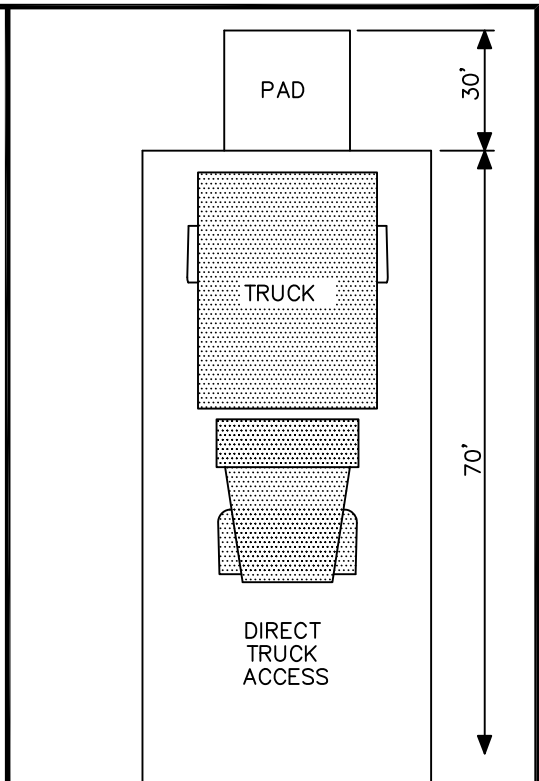
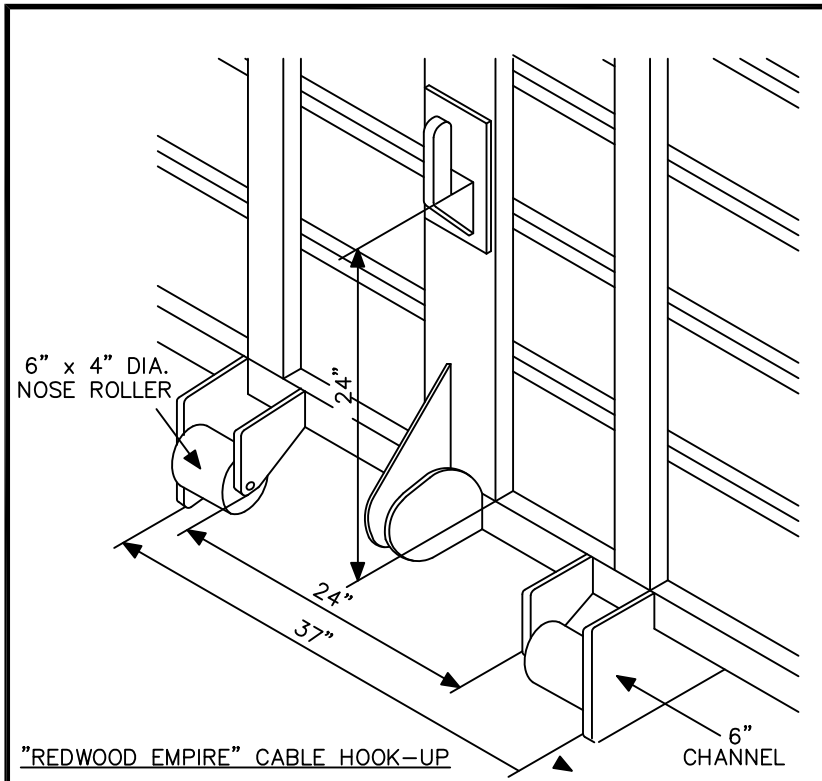
18. LANDSCAPE THE EXTERIOR SIDE OF ALL WALLS OR INCORPORATE ARCHITECTURAL ELEMENTS TO PREVENT GRAFFITI.
19. CONTACT THE COMMUNITY DEVELOPMENT DEPARTMENT, PLANNING DIVISION FOR GUIDANCE ON COLORS, MATERIALS AND ROOFING TO EXISTING AND/OR PROPOSED ARCHITECTURAL ELEMENTS OF THE PROJECT.

**MANAGEMENT**

20. CUSTOMER IS RESPONSIBLE FOR MAINTAINING THE ENCLOSURE.
21. AS A CONDITION OF SERVICE, PROPERTY OWNERS AND OTHER CUSTOMERS ACCEPT ALL RISK OF THE PROPERTY LOSS AND LIABILITY FOR DAMAGES OCCURRING FROM NORMAL SERVICE OPERATIONS.
22. ENCLOSURE ARE TO BE USED FOR REFUSE, RECYCLING, AND APPROVED CONTAINERS ONLY. ENCLOSURE SHALL BE KEPT FREE OF ALL LITTER, STORAGE OF OTHER MATERIALS.
23. THE APPLICANT/OWNER SHALL PROVIDE A SIGN 12"X18" SIGN THAT READ "NO HAZARDOUS WASTE DUMPING" IN RED LETTERS WITH WHITE BACKGROUND.

CITY OF WATSONVILLE PUBLIC WORKS & UTILITIES DEPARTMENT

SCALE: NTS		SOLID WASTE DIVISION STANDARD DRAWING <b>REFUSE ENCLOSURE DESIGN GUIDELINES</b>	DRAWN: MAY 2018	REV:
DRAWN BY: STAFF		 MARIA ESTHER RODRIGUEZ, CITY ENGINEER	RESOLUTION: 98-18 (CM)	
CHECKED BY: TC		DWG NO. <b>S-602b</b>		



**NOTES:**

- A) PAD FOR DROPBOXES & COMPACTORS:
  1. PAD FOR ROLL OFF 12'x 30'. #4 @ 12" O.C.E.W. 70' CLEAR SPACE REQUIRED IN FRONT OF PAD FOR DIRECT TRUCK ACCESS.
- B) DROPBOXES MUST MEET THE FOLLOWING:
  1. FRONT - 6"x 4" DIAMETER NOSE ROLLERS IN FRONT OF BOX WITH WITH REDWOOD EMPIRE CABLE HOOK-UP.
  2. 6" CHANNEL TO BE PLACED 18 1/2" FROM CENTER POINT (ON BOTH SIDES) OF BOX, INSIDE RAIL OPENING SHALL BE 37" (INSIDE DIAMETER).
  3. REAR LOCKING POINTS TO BE 235" FROM THE FRONT OF THE NOSE ROLLER TO THE CENTER OF THE 1-1/4" ROUND BAR SHALL BE 9" IN LENGTH. BOTTOM EDGE TO BE 5" BELOW BOTTOM OF BOX. THE OUTSIDE SUPPORT IS TO BE 2" CHANNEL, 5" IN LENGTH.

CITY OF WATSONVILLE PUBLIC WORKS & UTILITIES DEPARTMENT

<p>NOT TO SCALE</p> <p>DRAWN BY: P.A.C.</p> <p>CHECKED BY: T.S.</p>	<p>CITY OF WATSONVILLE</p>	<p>STANDARD DRAWING FOR <b>DROP BOX &amp; COMPACTOR</b> STANDARD DETAIL</p> <p><i>Maria Esther Rodriguez</i> MARIA ESTHER RODRIGUEZ, CITY ENGINEER</p>	<p>DRAWN: 12/98</p>	<p>REV.: 2/13</p>
			<p>RESOLUTION: 76-13 (CM)</p>	
			<p>DRAWING No. <b>S-603</b></p>	