

SECTION I - BARRIER

SHEET NO.	NAME
B-L (2001)	- BARRIER LEGEND
B-1	- GUARDRAIL APPLICATIONS
	(2002) - 1 PLANS - (TYPE 1, TYPE 2, AND TYPE 3)
	(2004) - 2 ELEVATIONS AND SPLICE DETAIL
	(2002) - 3 SECTION VIEWS
	(2006) - 4 GRADING FOR GUARDRAIL END TREATMENT, TYPE 1
	(2002) - 5 GRADING FOR GUARDRAIL END TREATMENT, TYPE 2
	(2002) - 6 GRADING FOR GUARDRAIL END TREATMENT, TYPE 3
B-2 (2002)	- GUARDRAIL OVER CULVERTS, TYPE 1
B-3 (2002)	- GUARDRAIL OVER CULVERTS, TYPE 2
B-4 (2001)	- CURVED GUARDRAIL SECTION
B-5 (2002)	- END ANCHORAGE
B-6	- BURIED END SECTION
	(2002) - 1 BURIED END SECTION
	(2002) - 2 BURIED END SECTION
	(2002) - 3 POST, CONCRETE BLOCK, & RUBRAIL ANCHOR DETAILS
B-7	- GUARDRAIL TO BARRIER CONNECTION, APPROACH TYPE 1
	(2005) - 1 PLAN, ELEVATION, AND SECTIONS
	(2001) - 2 WOOD BLOCKOUT, RUB RAIL WOOD BLOCKS, BEARING PLATE, RUB RAIL TO BARRIER CONNECTION DETAILS
	(2001) - 3 BENT PLATE RUB RAIL DETAILS
B-8	- GUARDRAIL TO BARRIER CONNECTION, APPROACH TYPE 2
	(2005) - 1 PLAN, ELEVATION, AND SECTIONS
	(2001) - 2 NOTES, BENT RAIL DETAILS, BLOCK SCHEDULE
B-9 (2002)	- GUARDRAIL TO BARRIER CONNECTION, EXIT TYPE
B-10 (2002)	- BRIDGE RAIL RETROFIT, TYPE 1
B-11	- BRIDGE RAIL RETROFIT, TYPE 2
	(2002) - 1 PLAN, SECTION A-A, BASE PLATE DETAIL
	(2001) - 2 BASE PLATE DETAIL AND STEEL GUARDRAIL POST
B-12 (2001)	- BRIDGE RAIL RETROFIT, TYPE 3
B-13	- HARDWARE
	(2004) - 1 W-BEAM DETAILS
	(2004) - 2 W-BEAM STEEL POST AND OFFSET BLOCK
	(2004) - 3 W-BEAM TERMINAL CONNECTOR
	(2004) - 4 THRIE BEAM DETAILS
	(2004) - 5 THRIE BEAM STEEL POST AND OFFSET BLOCK
	(2004) - 6 W-THRIE BEAM TRANSITION SECTION
	(2004) - 7 WOOD BLOCK, SOIL PLATE, SHORT WOOD BREAKAWAY POST, STEEL TUBE, LONG WOOD BREAKAWAY POST
	(2004) - 8 SWAGED CABLE AND RELATED HARDWARE ASSEMBLY
	(2004) - 9 REFLECTORIZED WASHER AND BEARING PLATE DETAIL
	(2004) - 10 GUARDRAIL BOLT & RECESSED NUT
	(2004) - 11 5/8" (16) HEX BOLT, HEX NUT, & STEEL WASHER, HIGH-STRENGTH STRUCTURAL HEX BOLT & HEX NUT
	(2004) - 12 15/16" (24) HEX NUT & STEEL WASHER, 5/8" (16) CARRIAGE BOLT, HEX NUT, & STEEL WASHER
	(2005) - 13 GUARDRAIL MOUNTED RAIL •DETAIL ON HOLD•
B-14	- CONCRETE SAFETY BARRIER (F SHAPE)
	(2001) - 1 TYPICAL CAST IN PLACE OR SLIP FORM CONSTRUCTION
	(2001) - 2 TYPICAL PRE-CAST CONSTRUCTION
	(2001) - 3 SLOTTED PLATE CONNECTION DETAILS

SECTION I - BARRIER (CONT'D)

SHEET NO.	NAME
B-15	— PORTABLE CONCRETE SAFETY BARRIER (F SHAPE)
(2001) - 1	PLAN, ELEVATION, AND SECTION VIEW •DETAIL DELETED - SEE SPECIFICATIONS•
(2001) - 2	CURVE SECTION •DETAIL DELETED - SEE SPECIFICATIONS•
(2001) - 3	TAPERED END SECTION •DETAIL DELETED - SEE SPECIFICATIONS•
(2001) - 4	TYPICAL REINFORCEMENT DETAILS •DETAIL DELETED - SEE SPECIFICATIONS•
(2001) - 4	JOINT CONNECTION DETAILS •DETAIL DELETED - SEE SPECIFICATIONS•

SECTION II - CURB & GUTTER

SHEET NO.	NAME
C-1 (2005)	— P.C.C. CURB, P.C.C. CURB & GUTTER, AND HOT-MIX CURB
C-2	— CURB RAMPS
(2006) - 1	TYPE 1
(2006) - 2	TYPES 2, 3, & 4
(2006) - 3	SECTIONS FOR TYPES 2, 3, & 4
(2006) - 4	TYPE 5
C-3 (2005)	— ENTRANCES
C-4	— CURB OPENINGS
(2001) - 1	TYPES A, B, & C
(2001) - 2	TYPES D & E
(2001) - 3	TYPES F & G

SECTION III - DRAINAGE

SHEET NO.	NAME
D-1	— 6:1 SAFETY END STRUCTURE
(2001) - 1	DETAIL VIEWS
(2001) - 2	SCHEDULES
D-2	— 10:1 SAFETY END STRUCTURE
(2001) - 1	DETAIL VIEWS
(2001) - 2	SCHEDULES
D-3	— SAFETY GRATES
(2005) - 1	SAFETY END STRUCTURE GRATE & ASSEMBLY DETAIL
(2005) - 2	PERSONNEL SAFETY GRATE FOR PIPE INLET DETAIL
D-4 (2006)	— INLET BOX DETAILS
D-5	— DRAINAGE INLET DETAILS
(2002) - 1	DRAINAGE INLET ASSEMBLY
(2006) - 2	DRAINAGE INLET FRAME AND GRATES
(2004) - 3	DRAINAGE INLET TOP UNITS
(2006) - 4	DRAINAGE INLET COVER SLAB DETAILS
(2006) - 5	DOUBLE INLET COVER SLAB DETAILS
(2004) - 6	DRAINAGE INLET 34" (865) x 24" (610) DETAILS
(2002) - 7	DRAINAGE INLET 34" (865) x 18" (455) DETAILS
(2002) - 8	LAWN INLET DETAIL

SECTION III - DRAINAGE (CONT'D)

SHEET NO.	NAME
D-6	— MANHOLE DETAILS
	(2001) - 1 BOX MANHOLE ASSEMBLY
	(2001) - 2 ROUND MANHOLE ASSEMBLY
	(2001) - 3 MANHOLE FRAME AND COVER
	(2002) - 4 BOX MANHOLE COVER SLAB
D-7	— JUNCTION BOX DETAILS
	(2002) - 1 JUNCTION BOX ASSEMBLY
	(2002) - 2 JUNCTION BOX COVER SLAB
D-8 (2001)	— PIPE BEDDING
D-9 (2006)	— PERFORATED PIPE UNDERDRAIN

SECTION IV - EROSION

SHEET NO.	NAME
E-1 (2001)	— INCREMENTAL STABILIZATION
E-2 (2006)	— SILT FENCE
E-3 (2005)	— DRAINAGE INLET SEDIMENT CONTROL
E-4 (2001)	— CURB INLET SEDIMENT CONTROL
E-5 (2006)	— STONE CHECK DAM
E-6 (2005)	— SEDIMENT TRAP
E-7 (2005)	— SEDIMENT TRAP, USING DRAINAGE INLET AS OUTLET
E-8	— RISER PIPE ASSEMBLY FOR SEDIMENT TRAP
	(2006) - 1 ELEVATION
	(2006) - 2 TRASH HOOD DETAILS
E-9 (2005)	— EROSION CONTROL BLANKET APPLICATIONS
E-10 (2005)	— RIPRAP DITCH
E-11 (2005)	— TEMPORARY SWALE
E-12 (2005)	— PERIMETER DIKE/SWALE
E-13 (2005)	— EARTH DIKE
E-14 (2005)	— TEMPORARY SLOPE DRAIN
E-15 (2005)	— STILLING WELL
E-16 (2005)	— SUMP PIT, TYPE 1 & 2
E-17 (2005)	— DEWATERING BASIN
E-18 (2005)	— GEOTEXTILE-LINED CHANNEL DIVERSION
E-19 (2005)	— SANDBAG DIVERSION
E-20 (2005)	— SANDBAG DIKE
E-21 (2005)	— STABILIZED CONSTRUCTION ENTRANCE
E-22 (2006)	— SKIMMER DEWATERING DEVICE
E-23	— TURBIDITY CURTAIN
	(2005) - 1 FLOATING TURBIDITY CURTAIN
	(2005) - 2 STAKED TURBIDITY CURTAIN
E-24 (2005)	— PORTABLE SEDIMENT TANK
E-25 (2005)	— TURF REINFORCEMENT MAT APPLICATIONS
E-26 (2006)	— RIPRAP ENERGY DISSIPATOR DETAIL



SECTION V - LANDSCAPING

SHEET NO.	NAME
L-1	— PLANTING DETAILS
(2006) - 1	ROADSIDE SHRUB PLANTING DETAIL
(2006) - 2	TREE PLANTING DETAILS
(2006) - 3	PERENNIAL/GROUND COVER PLANTING DETAIL

SECTION VI - MISCELLANEOUS

SHEET NO.	NAME
M-1 (2001)	— RIGHT-OF-WAY FENCE
M-2 (2001)	— CONCRETE MONUMENT
M-3 (2005)	— REMOVABLE BOLLARD
M-4 (2004)	— BIKE RACK
M-5 (2004)	— WOOD RAIL FENCE
M-6 (2004)	— PATTERNED HOT-MIX OR CONCRETE & BRICK PAVER
M-7 (2006)	— CHAIN LINK FENCE DETAILS

SECTION VII - PAVEMENT

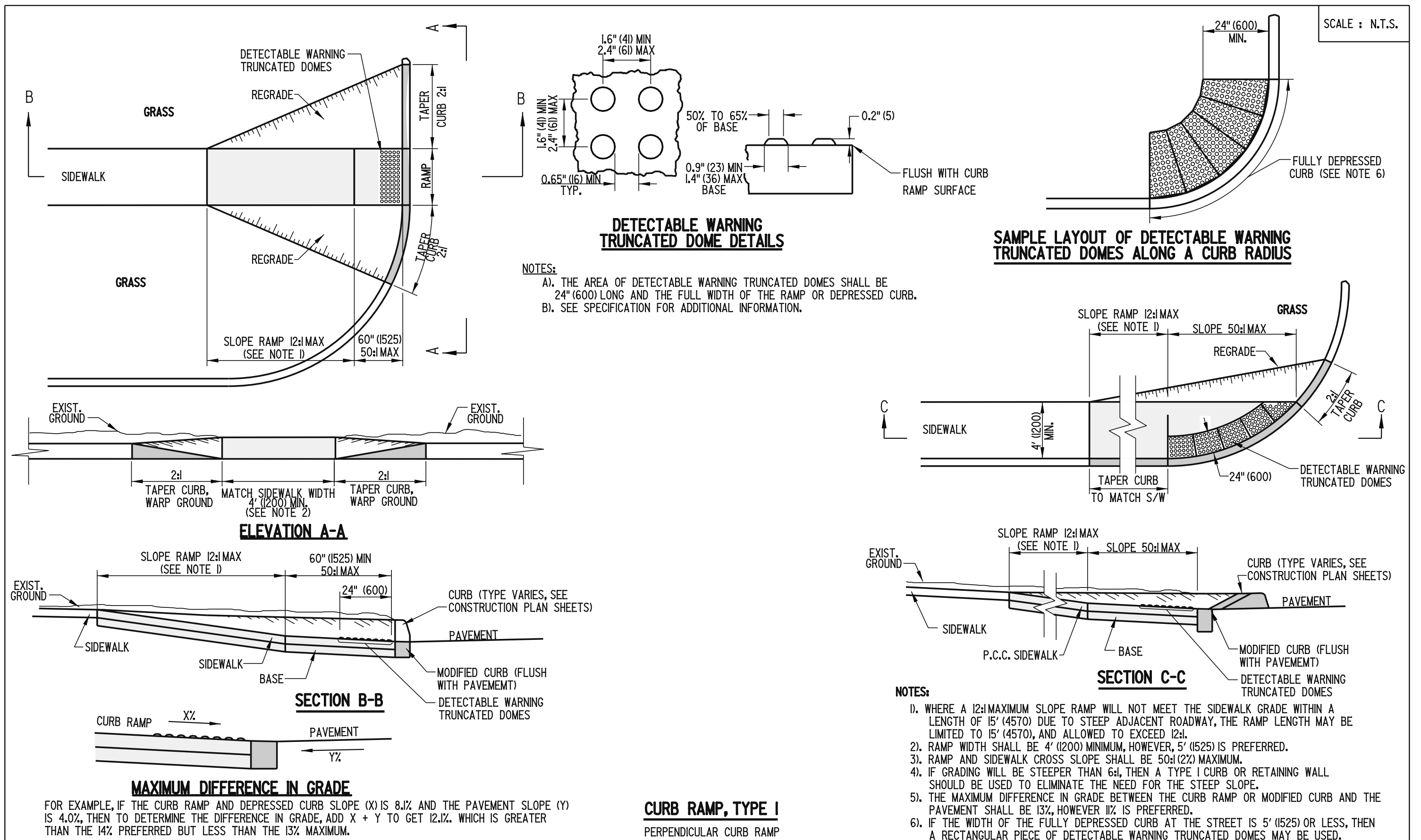
SHEET NO.	NAME
P-1	— P.C.C. PAVEMENT
(2001) - 1	SLAB PLAN (WITH DOWEL AND TIE LOCATIONS)
(2004) - 2	JOINT AND SEALANT DETAILS
(2001) - 3	W BOLT, HOOK BOLT, DOWEL & TIE BAR
(2001) - 4	DOWEL SUPPORT BASKET
(2001) - 5	DOWEL & TIE BAR PLACEMENT TOLERANCES
P-2	— P.C.C. PAVEMENT PATCHING
(2001) - 1	FULL DEPTH PATCH, PLAN VIEW
(2004) - 2	FULL DEPTH PATCH, SECTION VIEWS
(2004) - 3	FULL DEPTH PATCH, SEALANT DETAILS, GROUT RETENTION DISK, AND DOWEL BAR
(2001) - 4	FULL DEPTH PATCH, DOWEL BAR PLACEMENT TOLERANCES
(2001) - 5	PARTIAL DEPTH PATCH, PLAN AND SECTION VIEWS



SECTION VIII - TRAFFIC

SHEET NO.	NAME
T-1 (2005)	— CONDUIT JUNCTION WELL, TYPES 1,2, AND 3
T-2 (2005)	— CONDUIT JUNCTION WELL, TYPE 4
T-3 (2005)	— CONDUIT JUNCTION WELL, TYPE 5
T-4 (2005)	— CABINET BASES (TYPES "M" AND "P")
T-5	— POLE BASES
	(2005) - 1 ROUND BASE, SQUARE BASE
	(2005) - 2 TYPICAL SECTION (BASES 1, 2, 2A, 2B, 3, 3A, 3B, AND 7), TYPICAL SECTION (BASE 4), TYPICAL INSTALLATION (BASES 1, 2, 2A, 2B, 3, 3A, 3B, 4, AND 7)
	(2005) - 3 TYPICAL SECTION (BASES 5 AND 6), ANCHOR BOLT DATA CHART AND DETAILS
T-6 (2005)	— SPECIAL POLE BASE
T-7 (2005)	— SIGN FOUNDATION
T-8 (2005)	— LOOP DETECTOR TO CONDUIT JUNCTION WELL CONNECTION
T-9 (2005)	— TYPE #1 LOOP DETECTOR
T-10 (2005)	— TYPE #2 LOOP DETECTOR
T-11	— MESSENGER WIRE ATTACHMENT
	(2005) - 1 INTERMEDIATE MESSENGER WIRE ATTACHMENT ON WOOD POLES
	(2005) - 2 ANGULAR INTERMEDIATE MESSENGER WIRE ATTACHMENT
T-12	— MESSENGER WIRE ATTACHMENT
	(2005) - 1 SPAN WIRE ATTACHMENT BETWEEN POLES
	(2005) - 2 DEAD END MESSENGER WIRE ATTACHMENT
T-13	— CONDUIT JUNCTION WELLS
	(2005) - 1 TYPE 4
	(2006) - 2 TYPE 7
	(2006) - 3 TYPES 8 & 10
T-14	— EMERGENCY PREEMPTION RECEIVER
	(2006) - 1 UPRIGHT MOUNT
	(2005) - 2 INVERTED MOUNT





DELAWARE  
DEPARTMENT OF TRANSPORTATION

CURB RAMP, TYPE 1 AND SECTIONS

STANDARD NO. C-2 (2006)

SHT. 1 OF 4

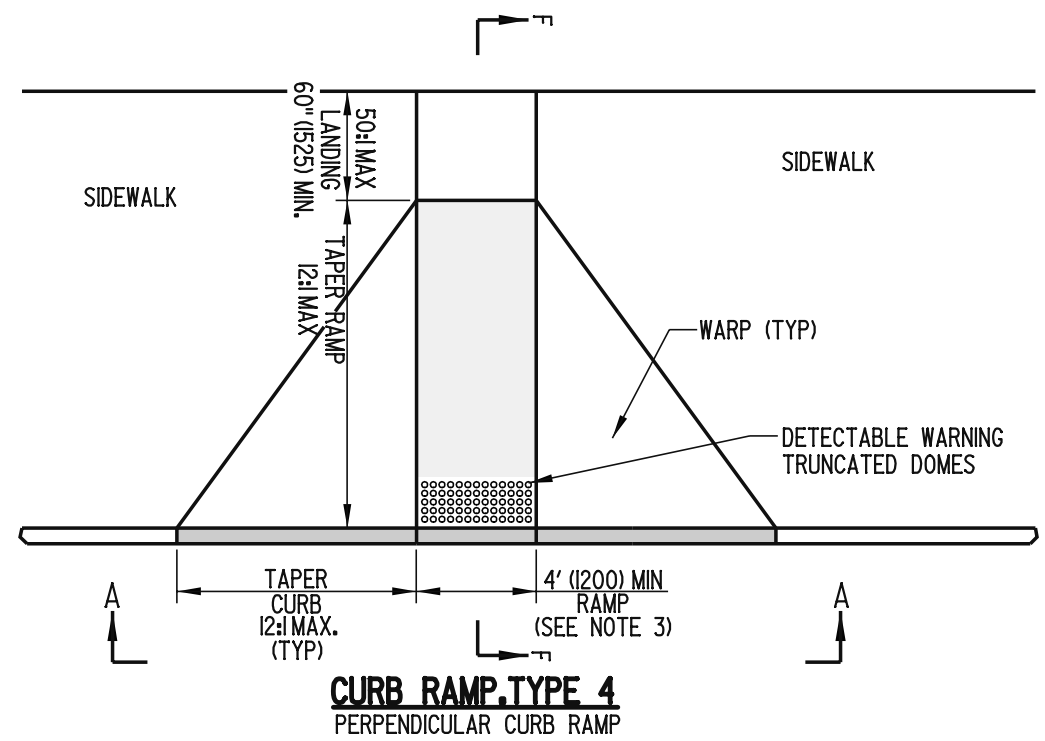
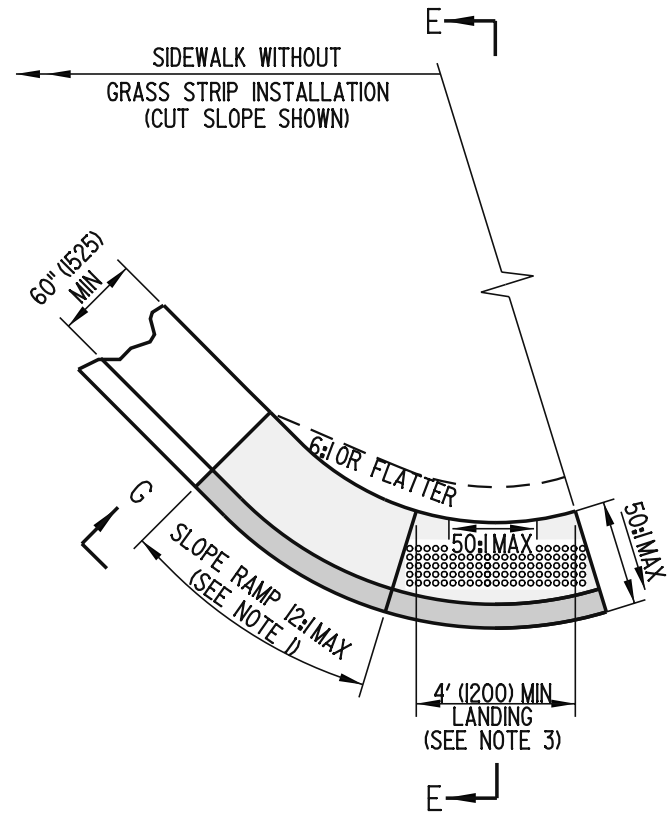
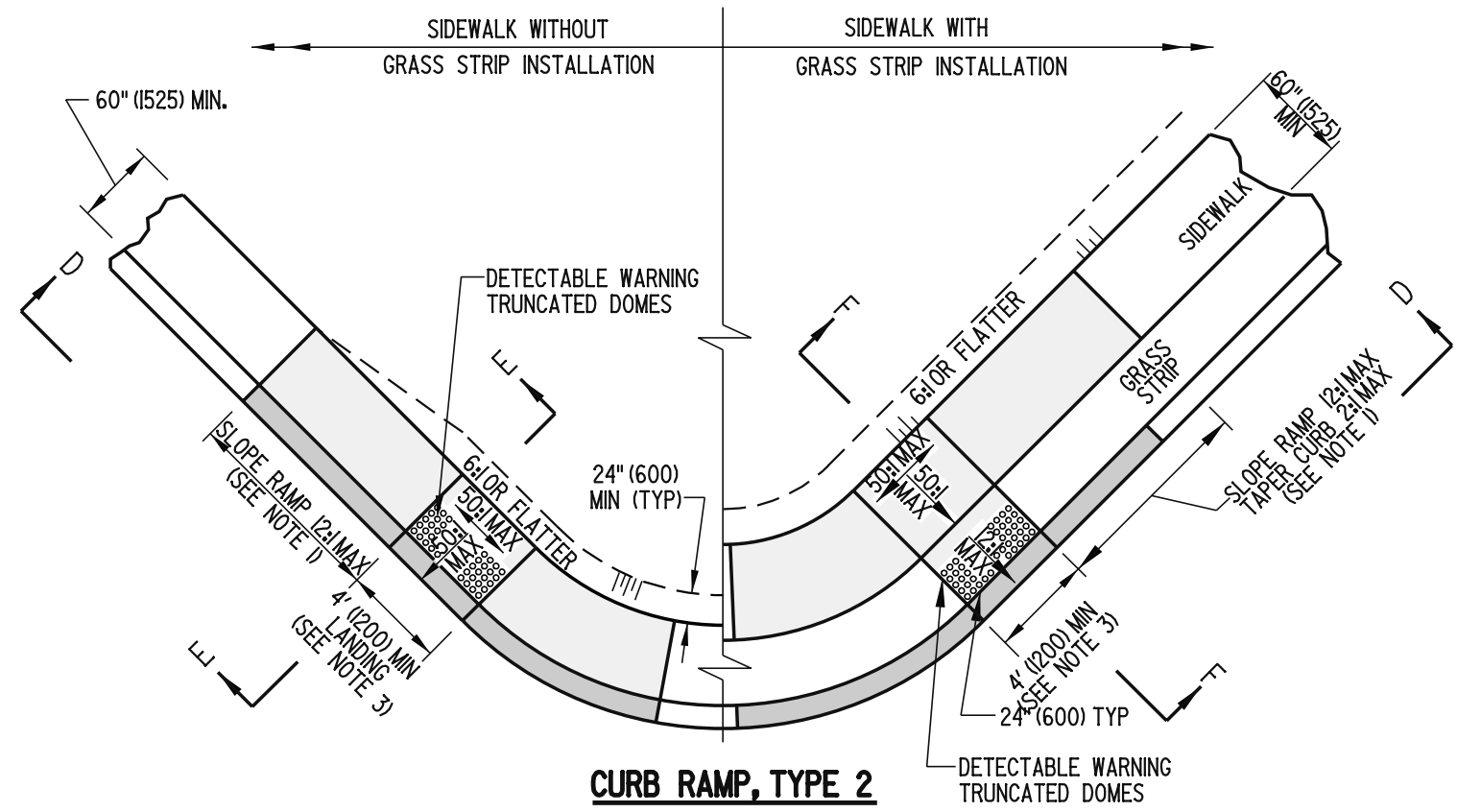
APPROVED

10/10/06  
CHIEF ENGINEER

RECOMMENDED

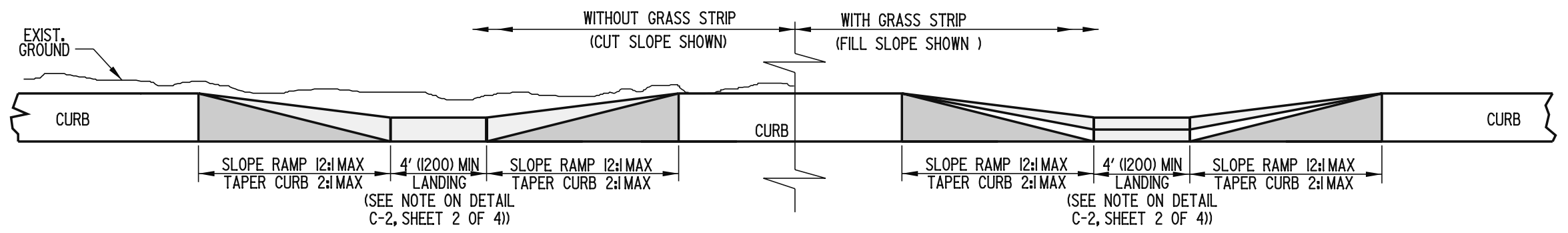
10/13/06  
DESIGN ENGINEER

SCALE : N.T.S.

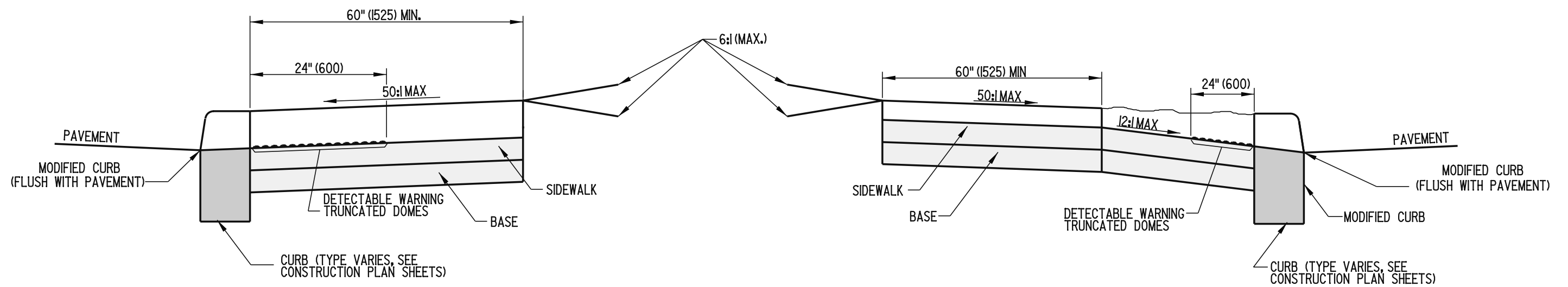


**NOTES:**

- 1). WHERE A 12:1 MAXIMUM SLOPE RAMP WILL NOT MEET THE SIDEWALK GRADE WITHIN A LENGTH OF 15' (4570), DUE TO STEEP ADJACENT ROADWAY, THE RAMP LENGTH MAY BE LIMITED TO 15' (4570), AND THE RAMP SLOPE ALLOWED TO EXCEED 12:1.
- 2). TRANSITION TO EXISTING SIDEWALK WIDTH OVER THE LENGTH OF THE RAMP.
- 3). RAMP OR LANDING WIDTH SHALL BE 4' (1200) MINIMUM, HOWEVER, 5' (1525) IS PREFERRED.
- 4). RAMP AND SIDEWALK CROSS SLOPE SHALL BE 50:1 (2%) MAXIMUM.
- 5). IF GRADING WILL BE STEEPER THAN 6:1 ADJACENT TO THE CURB RAMP OR SIDEWALK, THEN A TYPE 1 CURB OR RETAINING WALL SHOULD BE USED TO ELIMINATE THE NEED FOR THE STEEP SLOPE.
- 6). FOR THE CURB RAMP, TYPE 3, IF THE WIDTH OF THE FULLY DEPRESSED CURB AT THE STREET IS MORE THAN 5' (1525), THE DETECTABLE WARNING TRUNCATED DOMES SHALL FOLLOW THE RADIUS OF THE CURB CONTINUOUSLY WITHOUT GAPS FOR THE ENTIRE LENGTH OF DEPRESSED CURB. SEE STANDARD NO. C-2, SHEET 1 OF 4.
- 7). THE MAXIMUM DIFFERENCE IN GRADE BETWEEN THE SIDEWALK OR CURB AND THE PAVEMENT SHALL BE 13:1, HOWEVER 11:1 IS PREFERRED. SEE STANDARD NO. C-2, SHEET 1 OF 4.

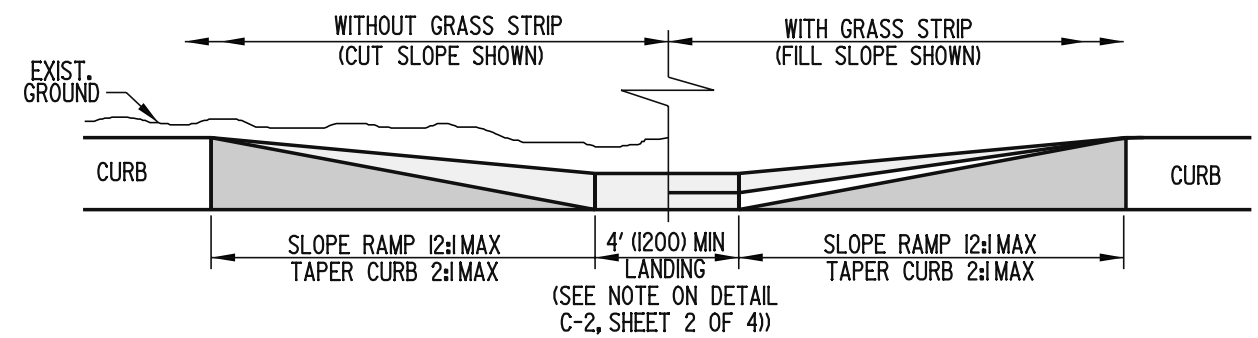


ELEVATION D-D






SECTION E-E

SECTION F-F

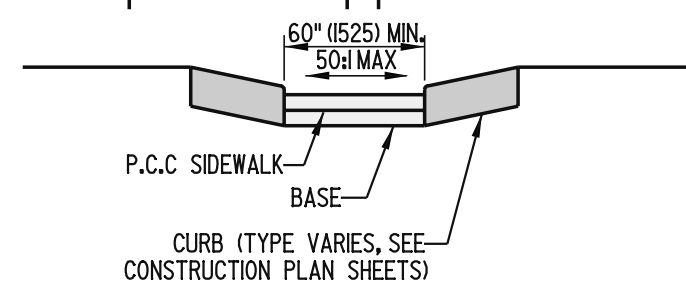
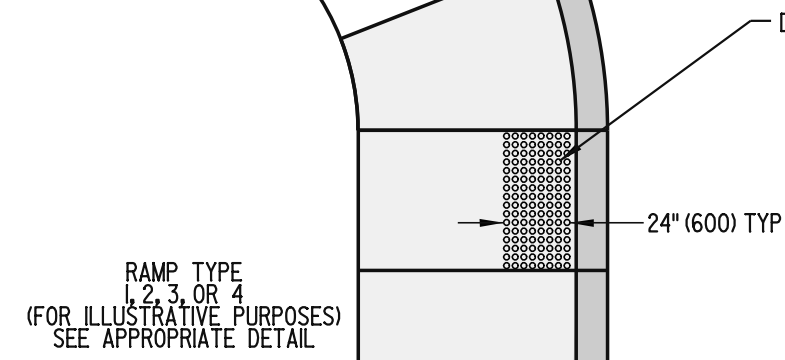


ELEVATION G-G

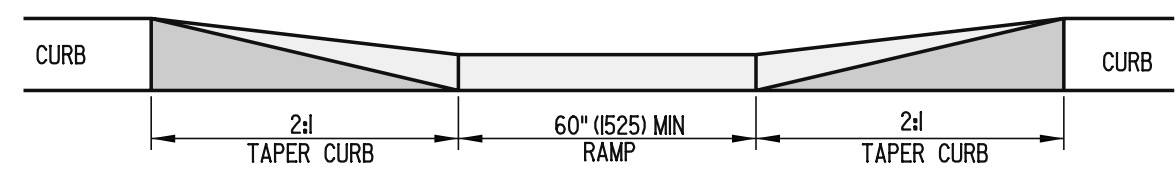
 DELAWARE DEPARTMENT OF TRANSPORTATION	CURB RAMP SECTIONS FOR TYPES 2 & 3			APPROVED  10/10/06
	STANDARD NO. C-2 (2006)	SHT. 3	OF 4	RECOMMENDED  10/13/06



SCALE : N.T.S.



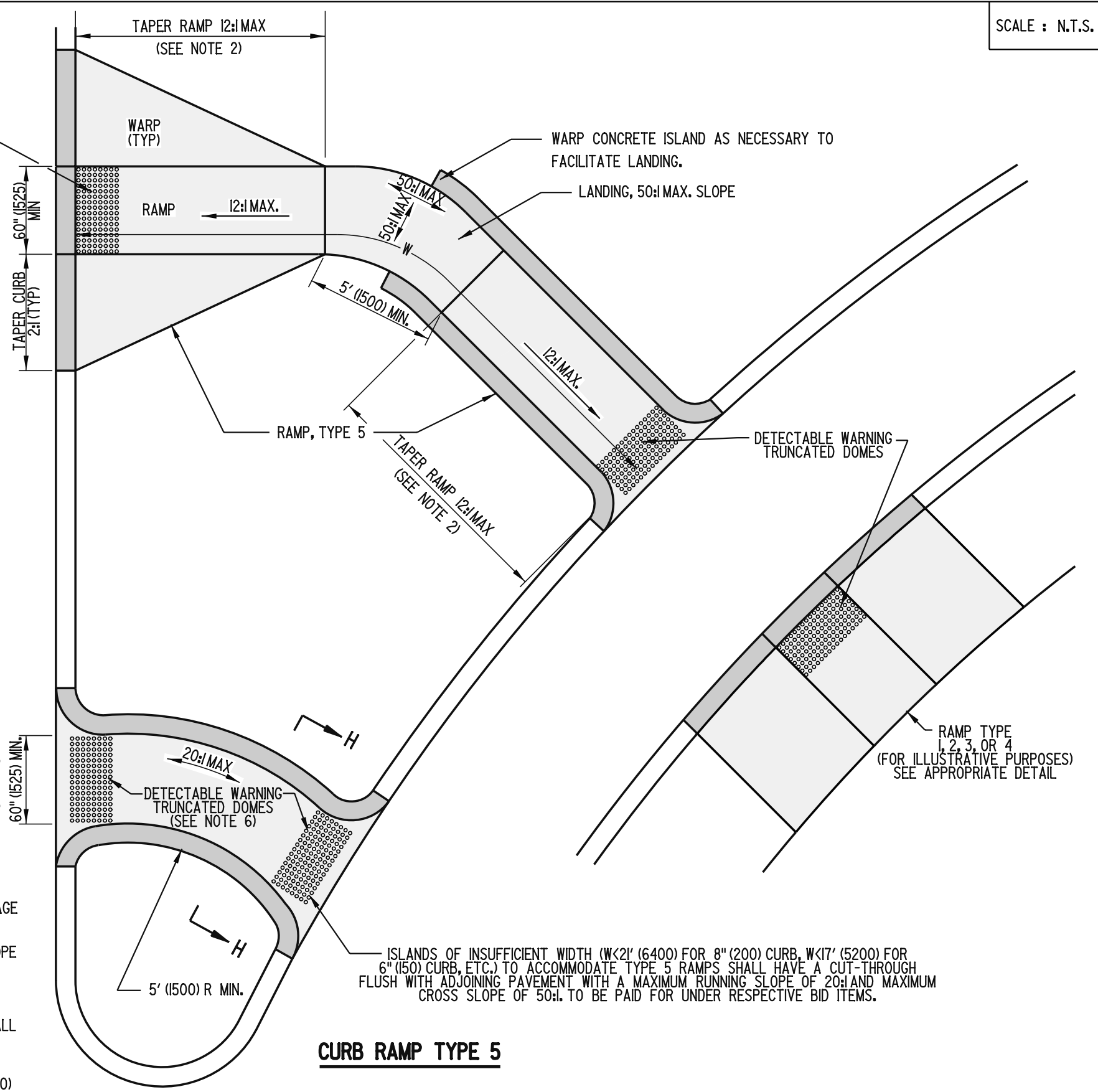
SECTION H-H



ELEVATION I-I

NOTES:

- 1). A CUT-THROUGH LEVEL WITH THE STREET IS THE PREFERRED TREATMENT FOR ISLANDS, ALTHOUGH, RAMPS CAN BE USED WHERE THE ISLAND WIDTH IS SUFFICIENT TO ACCOMMODATE THEM. POSITIVE SURFACE DRAINAGE MUST BE PROVIDED FOR EITHER TREATMENT. EITHER TREATMENT IS ACCEPTABLE.
- 2). WHERE A 12:1 MAXIMUM SLOPE RAMP WILL NOT MEET THE SIDEWALK GRADE WITHIN A LENGTH OF 15' (4570) DUE TO STEEP ADJACENT ROADWAY, THE RAMP LENGTH MAY BE LIMITED TO 15' (4570), AND THE RAMP SLOPE ALLOWED TO EXCEED 12:1.
- 3). A CONTINUOUS PATH MUST BE PROVIDED BETWEEN ADJACENT CURB RAMPS IN ISLANDS AND MEDIANS, WITH A MAXIMUM RUNNING SLOPE OF 20:1.
- 4). RAMP AND SIDEWALK CROSS SLOPE SHALL BE 50:1 (2%) MAXIMUM.
- 5). WHERE THERE IS NO DEPRESSED CURB AT A CUT-THROUGH OR CURB RAMP, THE DETECTABLE WARNING SHALL BE INSTALLED 3" (75) FROM THE ROADWAY PAVEMENT.
- 6). IF THE MINIMUM CLEAR SPACE BETWEEN DETECTABLE WARNINGS IS LESS THAN 2' (600), THEN THE ENTIRE MEDIAN CURB RAMP AREA SHALL BE COVERED WITH DETECTABLE WARNINGS.
- 7). PEDESTRIAN SIGNALS SHALL BE ACCESSIBLE WITH A LEVEL LANDING, WHOSE EDGE IS NO MORE THAN 10" (250) FROM ALL PEDESTRIAN PUSH BUTTONS.



CURB RAMP TYPE 5



DELAWARE  
DEPARTMENT OF TRANSPORTATION

CURB RAMP TYPE 5 & SECTIONS

STANDARD NO. C-2 (2006)

SHT. 4 OF 4

APPROVED

*Frank Taylor*  
CHIEF ENGINEER

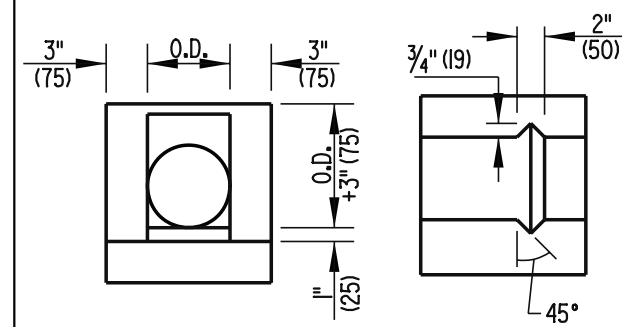
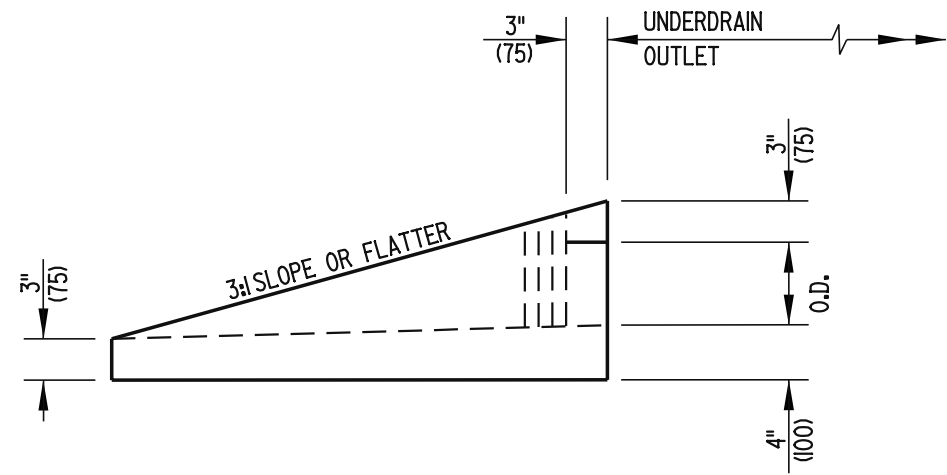
10/10/06  
DATE

RECOMMENDED

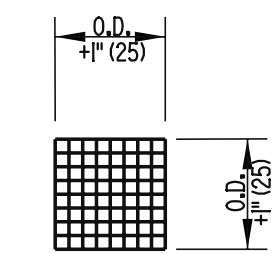
*Don Smith*  
DESIGN ENGINEER

10/13/06  
DATE

SCALE : N.T.S.



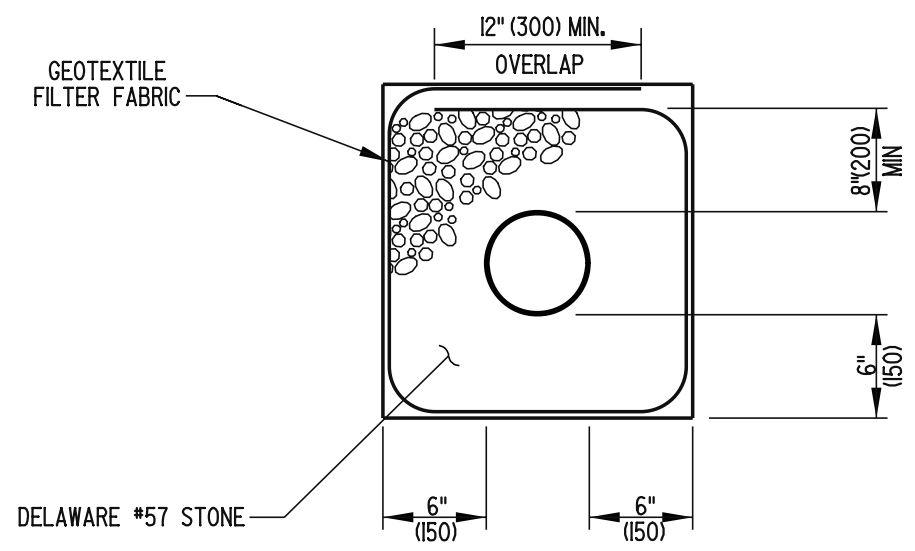
**FRONT VIEW**  
**TOP VIEW**  
**SLOTTED HEADWALL DETAIL**



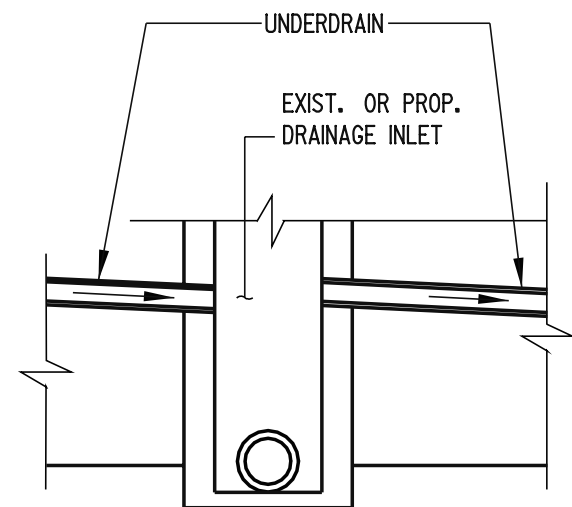
**FRONT VIEW**  
**RODENT SCREEN**

**DOWNSPOUT SPLASH APRON FOR UNDERDRAIN OUTLET**  
NOT TO SCALE

- NOTES:**
- 1). THE PERFORATED PIPE UNDERDRAIN SHALL BE LOCATED AS SHOWN ON THE TYPICAL SECTIONS OF THE CONSTRUCTION PLANS.
  - 2). GEOTEXTILE FILTER FABRIC SHALL BE PLACED ENTIRELY OVER THE TOP OF UNDERDRAIN TRENCH AND LAPPED AS SHOWN.
  - 3). SLOPE OF UNDERDRAINS SHALL MATCH ROADWAY GRADE, UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
  - 4). OUTLET PIPE CONFIGURATIONS SHALL USE 45 DEGREE ELBOWS OR SHALL USE STRAIGHT PIPE WITH A MINIMUM RADIUS OF 3' (900) TO DIRECT UNDERDRAIN PIPE INTO SIDE OF DRAINAGE INLET OR TO POSITIVE GRADE. PIPE SHALL ALSO BE NON-PERFORATED AND HAVE A SMOOTH INTERIOR.
  - 5). RODENT SCREEN SHALL SNUGLY FIT THE PROVIDED SLOT WITH THE SCREEN LIP FITTING TIGHT TO THE BOTTOM FLOW LINE.
  - 6). A 4' (1200) FLEXIBLE DELINEATOR SHALL BE FURNISHED AND INSTALLED AT THE DIRECTION OF THE ENGINEER TO MARK THE LOCATION OF THE CONCRETE HEADWALL. COST INCIDENTAL TO DOWNSPOUT SPLASH APRONS ITEM.
  - 7). WHEN TWO LINES OF PIPE UNDERDRAIN DRAIN TO A LOW POINT, EACH PIPE MUST HAVE ITS OWN OUTLET.
  - 8). PERFORATED PIPE UNDERDRAIN SHALL NOT BE PLACED UNDER GUARDRAIL IN ORDER TO AVOID PUNCTURING.






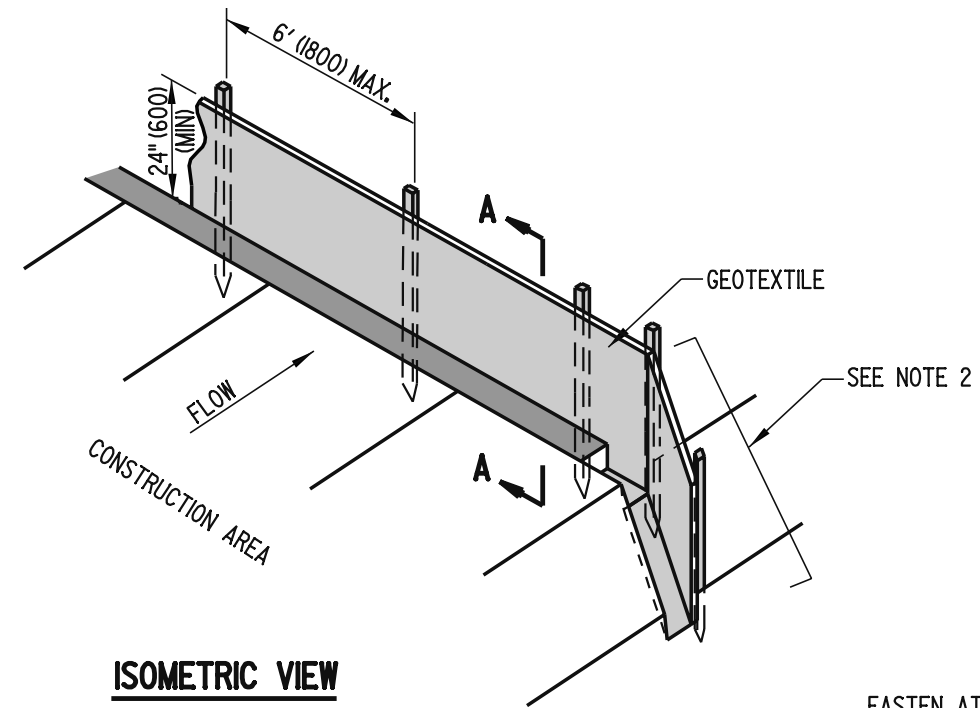
**SECTION**



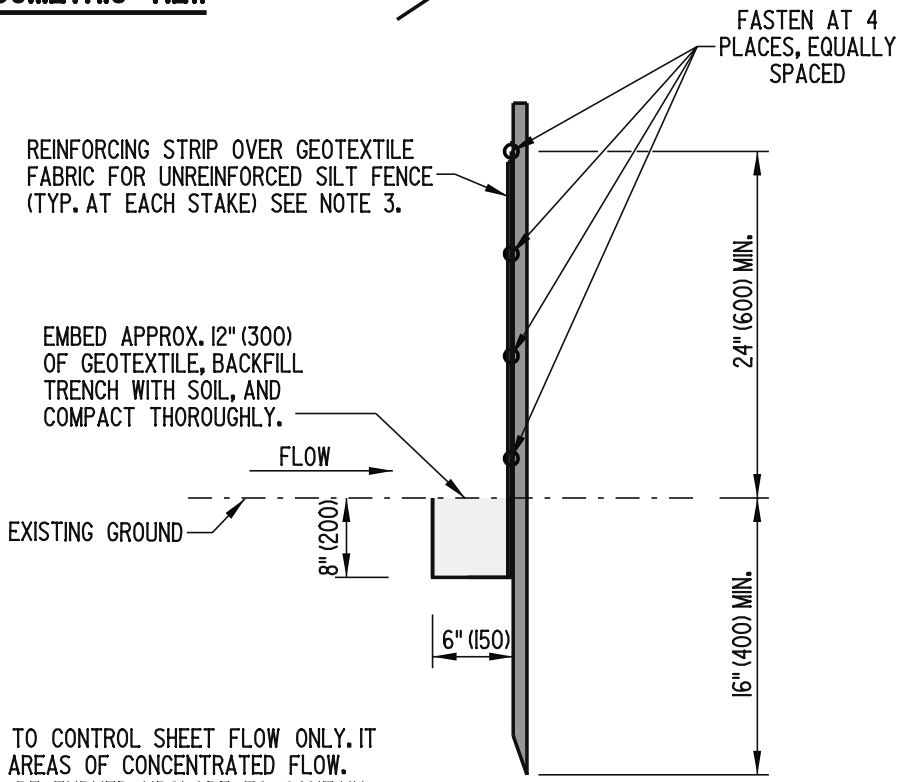
**ELEVATION**

**PERFORATED PIPE UNDERDRAIN**  
NOT TO SCALE

 <b>DELAWARE</b> <b>DEPARTMENT OF TRANSPORTATION</b>	<b>PERFORATED PIPE UNDERDRAIN DETAIL</b>			<b>APPROVED</b>  <b>10/10/06</b>
	<b>STANDARD NO.</b> <b>D-9 (2006)</b>	<b>SHT.</b> <b>1</b>	<b>OF</b> <b>1</b>	<b>RECOMMENDED</b>  <b>10/13/06</b>

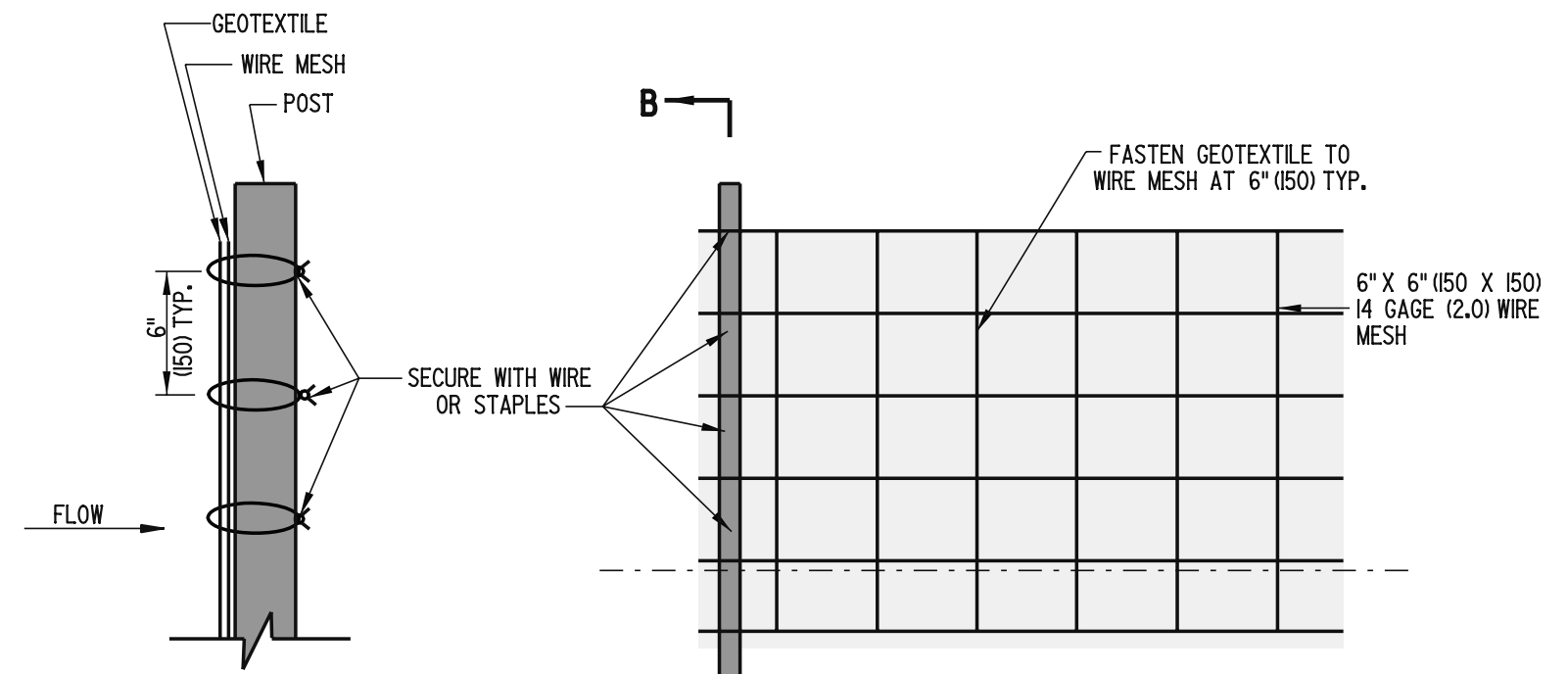


ISOMETRIC VIEW



SECTION A-A

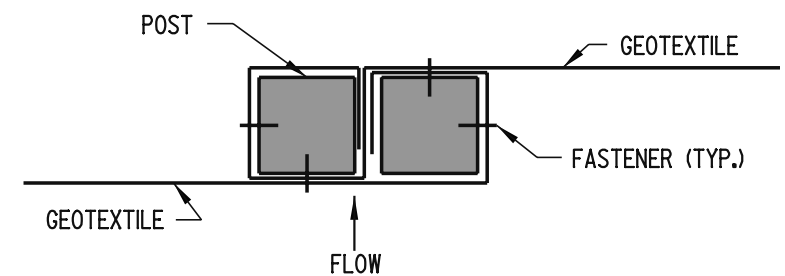
- NOTES:
- 1). THIS DEVICE IS INTENDED TO CONTROL SHEET FLOW ONLY. IT SHALL NOT BE USED IN AREAS OF CONCENTRATED FLOW.
  - 2). SILT FENCE ENDS SHALL BE TURNED UPSLOPE TO CONTAIN RUNOFF.
  - 3). REINFORCING STRIP IS TO BE ONE COMPLETE STRIP COVERING ALL GEOTEXTILE FABRIC AT POST.



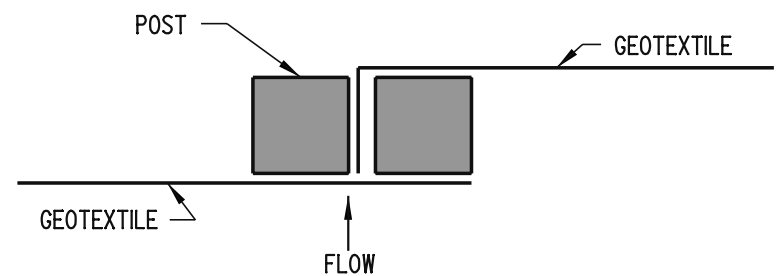
SECTION B-B

ELEVATION




WIRE MESH DETAIL  
(REINFORCED SILT FENCE ONLY)

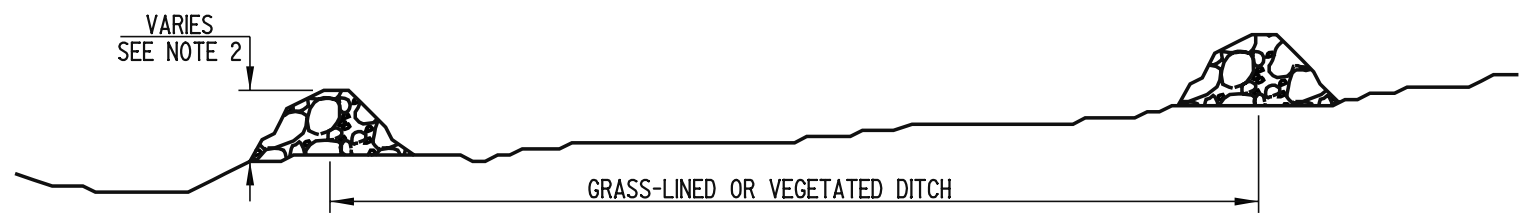
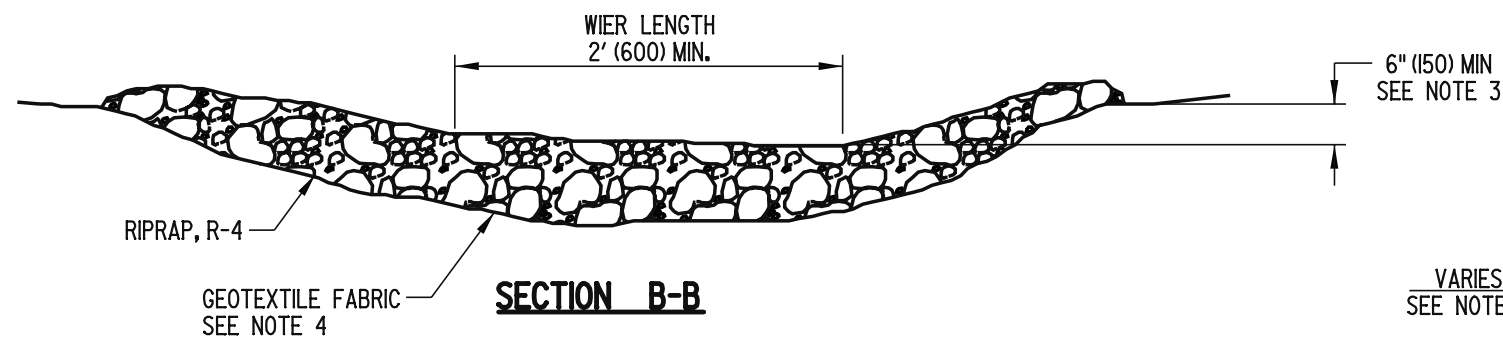


UNREINFORCED SILT FENCE  
CONNECTON DETAIL

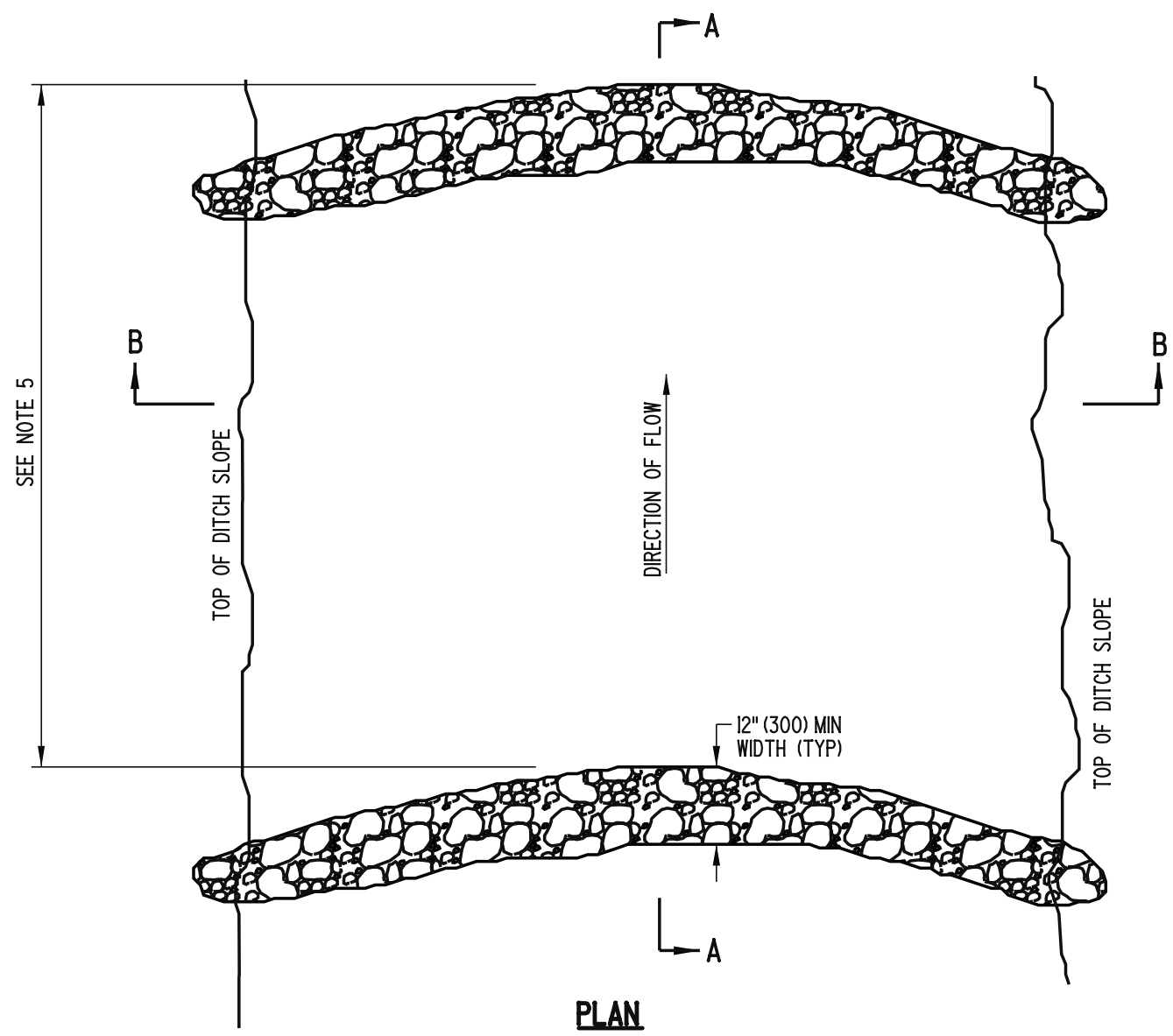


REINFORCED SILT FENCE  
CONNECTON DETAIL

 DELAWARE DEPARTMENT OF TRANSPORTATION	SILT FENCE			APPROVED  10/10/06
	STANDARD NO. E-2 (2006)	SHT. 1	OF 1	RECOMMENDED  10/13/06





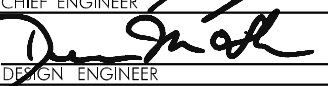
**SECTION A-A**



**PLAN**

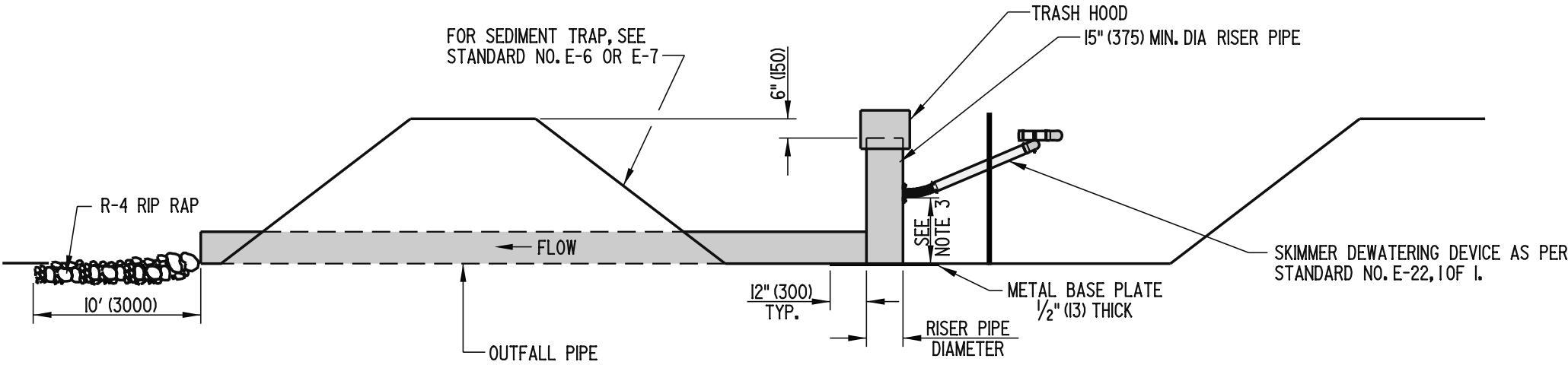
**NOTES:**

- 1). FOR DITCHES LESS THAN 30" (750) IN DEPTH, PLACE DAM AS DIRECTED BY THE ENGINEER.
- 2). THE CHECK DAM HEIGHT MUST NOT EXCEED 2' (600) AT THE CENTER OF THE WEIR.
- 3). THE CHECK DAM IS TO BE CONSTRUCTED SO THAT THE CENTER IS 6" (150) MIN. LOWER THAN THE OUTER EDGES, FORMING A WEIR THAT WATER CAN FLOW ACROSS.
- 4). GEOTEXTILE FABRIC IS TO BE INSTALLED UNDERNEATH RIPRAP ON PERMANENT CHECK DAMS ONLY.
- 5). THE MAXIMUM SPACING BETWEEN DAMS SHALL BE THE DISTANCE IN THE DITCH WHERE THE TOE OF THE UPSTREAM DAM IS AT THE SAME ELEVATION AS THE TOP OF THE DOWNSTREAM DAM AT THE CENTER OF THE WEIR.

 DELAWARE DEPARTMENT OF TRANSPORTATION	STONE CHECK DAM			APPROVED  10/10/06 CHIEF ENGINEER DATE
	STANDARD NO. E-5 (2006)	SHT. 1	OF 1	RECOMMENDED  10/13/06 DESIGN ENGINEER DATE

MIN. * OUTFALL PIPE DIA.	MIN. RISER DIA.	MAX. DRAINAGE AREA ACRES (ha)
12" (300)	15" (375)	1 (0.4)
15" (375)	18" (450)	2 (0.8)
18" (450)	21" (525)	3 (1.2)
21" (525)	24" (600)	4 (1.6)
24" (600)	27" (675)	5 (2.0)

\* OUTFALL PIPE DIAMETER MAY BE SAME SIZE AS RISER DIAMETER.



**ELEVATION**

- NOTES:**
- 1). THIS DEVICE IS INTENDED TO BE USED AS AN OUTLET FOR SEDIMENT TRAPS.
  - 2). THE PIPE OUTLET SHOWN SHALL BE USED WITH SEDIMENT TRAPS WITH DRAINAGE AREAS OF 5 ACRES (2.0 HECTARES) OR LESS. LARGER DRAINAGE AREAS REQUIRE AN ENGINEERED DESIGN.
  - 3). THE HEIGHT OF THE SKIMMER DEWATERING DEVICE SHALL BE SPECIFIED BY THE ENGINEER IN THE FIELD.



DELAWARE  
DEPARTMENT OF TRANSPORTATION

**RISER PIPE ASSEMBLY FOR SEDIMENT TRAP**

STANDARD NO. E-8 (2006)

SHT. 1 OF 2

APPROVED

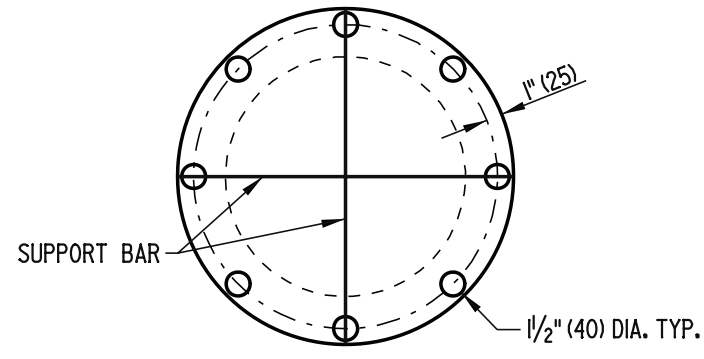
*Frank Taylor*  
CHIEF ENGINEER

10/10/06  
DATE

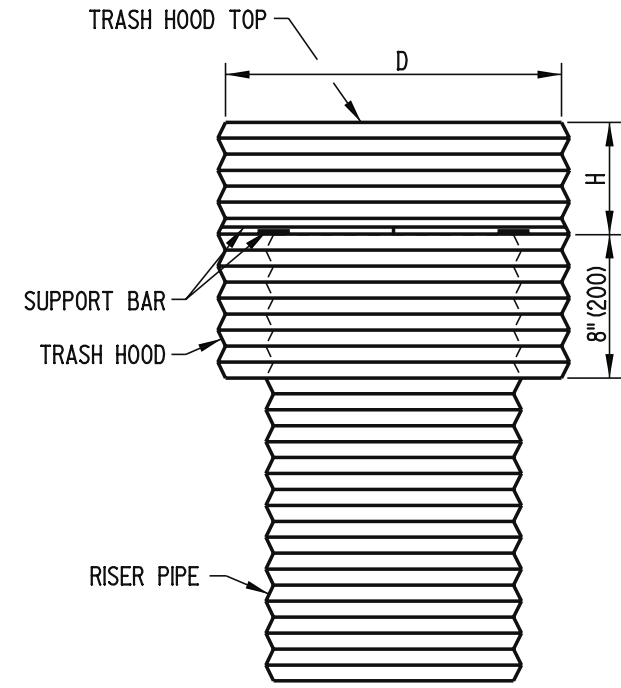
RECOMMENDED

*Dan Smith*  
DESIGN ENGINEER

10/13/06  
DATE

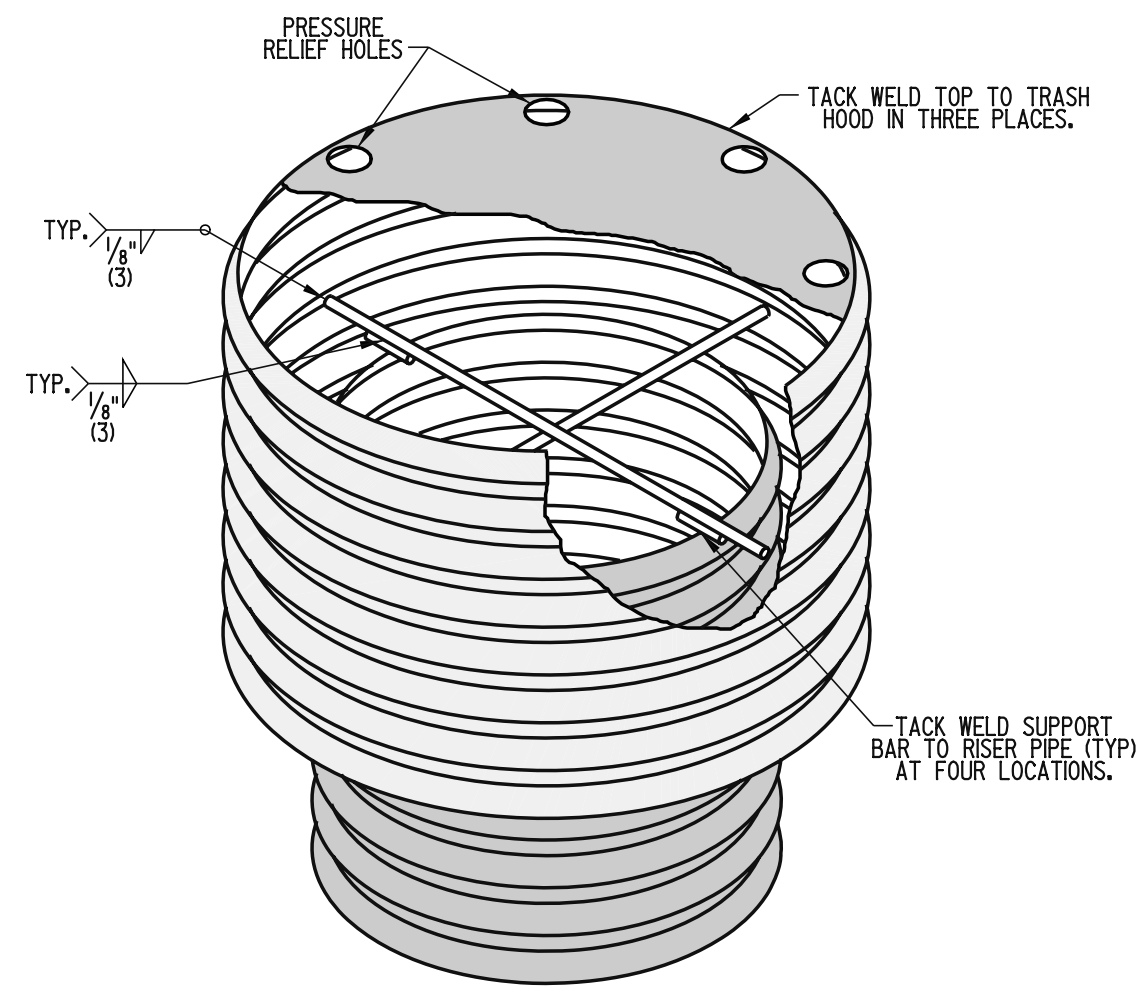


**PLAN**





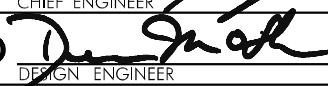
**FRONT**

TRASH HOOD CHART					
RISER PIPE DIAMETER	D	H	TRASH HOOD THICK. (GAGE)	MINIMUM SIZE SUPPORT BAR	MINIMUM TOP THICK. (GAGE)
15" (375)	21" (525)	7" (175)	16 (1.6)	#6 (#19) REBAR	16 (1.6)
18" (450)	27" (675)	8" (200)	16 (1.6)	#6 (#19) REBAR	16 (1.6)
21" (525)	30" (750)	11" (275)	16 (1.6)	#6 (#19) REBAR	16 (1.6)
24" (600)	36" (900)	13" (330)	16 (1.6)	#6 (#19) REBAR	14 (2.0)
27" (675)	42" (1050)	15" (380)	16 (1.6)	#6 (#19) REBAR	14 (2.0)
36" (900)	54" (1350)	17" (430)	14 (2.0)	#8 (#25) REBAR	12 (2.7)



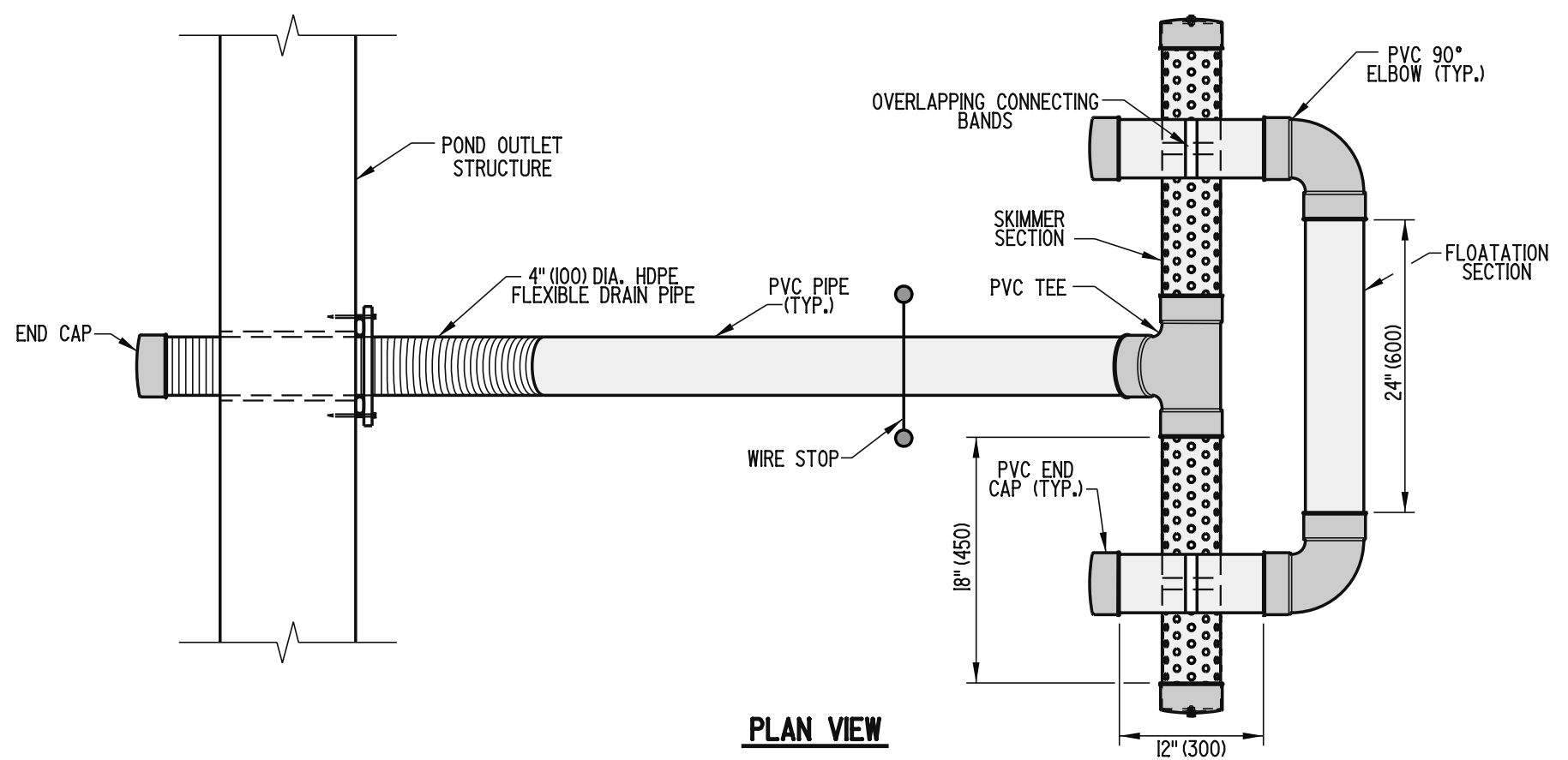
**ISOMETRIC VIEW**

**TRASH HOOD DETAILS**

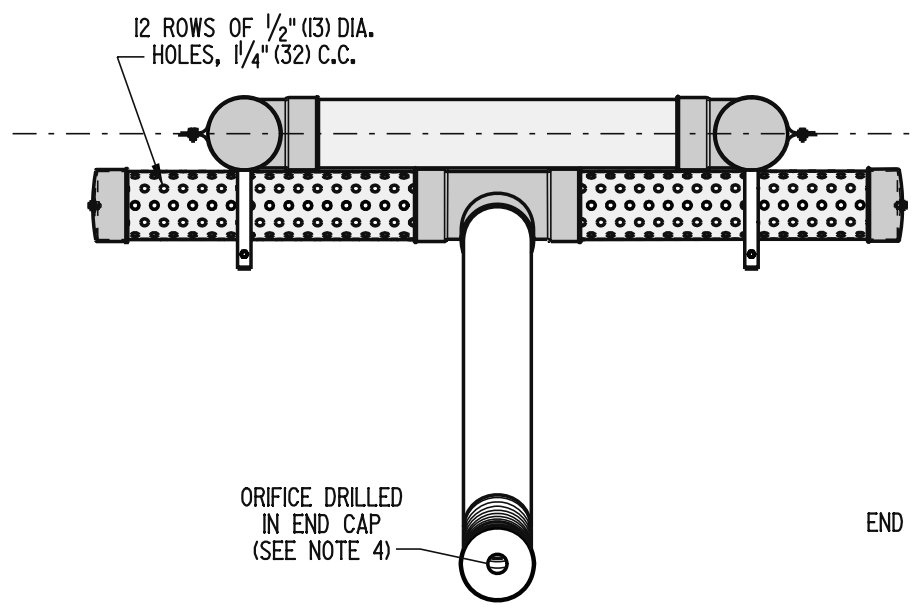
 <b>DELAWARE</b> <b>DEPARTMENT OF TRANSPORTATION</b>	<b>RISER PIPE ASSEMBLY FOR SEDIMENT TRAP</b>			<b>APPROVED</b>  <b>10/10/06</b> CHIEF ENGINEER DATE
	<b>STANDARD NO.</b> E-8 (2006)	<b>SHT.</b> 2	<b>OF</b> 2	<b>RECOMMENDED</b>  <b>10/13/06</b> DESIGN ENGINEER DATE

SCALE : N.T.S.

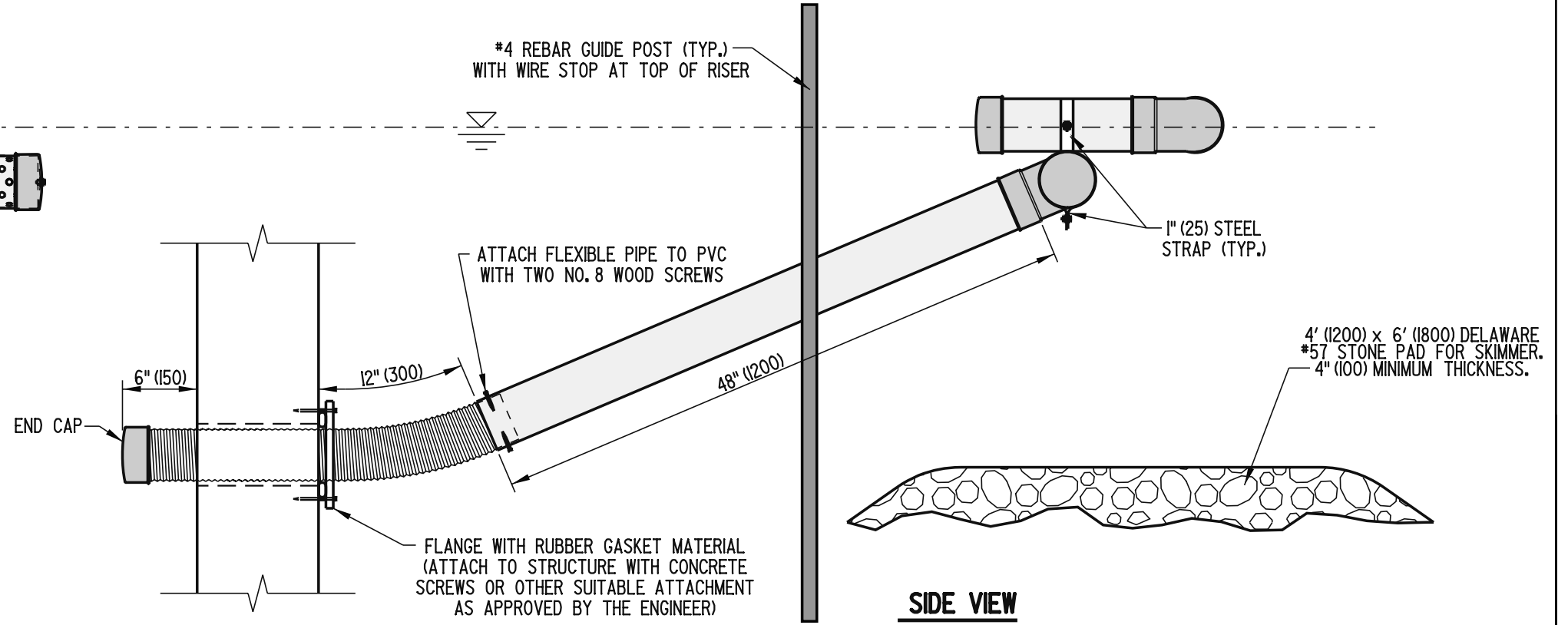
- NOTES:**
- 1). ALL P.V.C. PIPES ARE TO BE 4" (100) I.D., SCHEDULE 40
  - 2). ALL JOINTS OF THE FLOATATION SECTION SHALL BE SOLVENT WELDED. JOINTS OF SKIMMER SECTION NEED NOT BE WATER-TIGHT.
  - 3). 4" (100) HDPE FLEXIBLE DRAIN PIPE IS TO BE ATTACHED TO THE POND OUTLET STRUCTURE WITH WATER-TIGHT CONNECTIONS.
  - 4). ORIFICE IS TO BE SIZED ACCORDING TO STORAGE VOLUME AND TO SLOWLY RELEASE 1" (25) RUNOFF FOR AT LEAST 24-HOURS.






**PLAN VIEW**

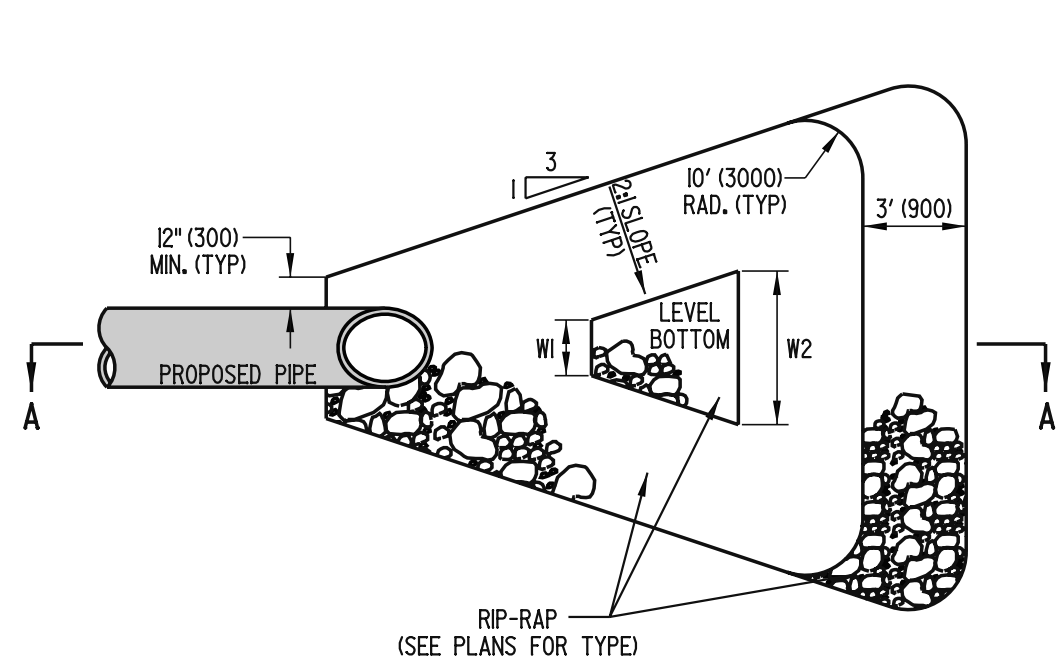


**FRONT VIEW**

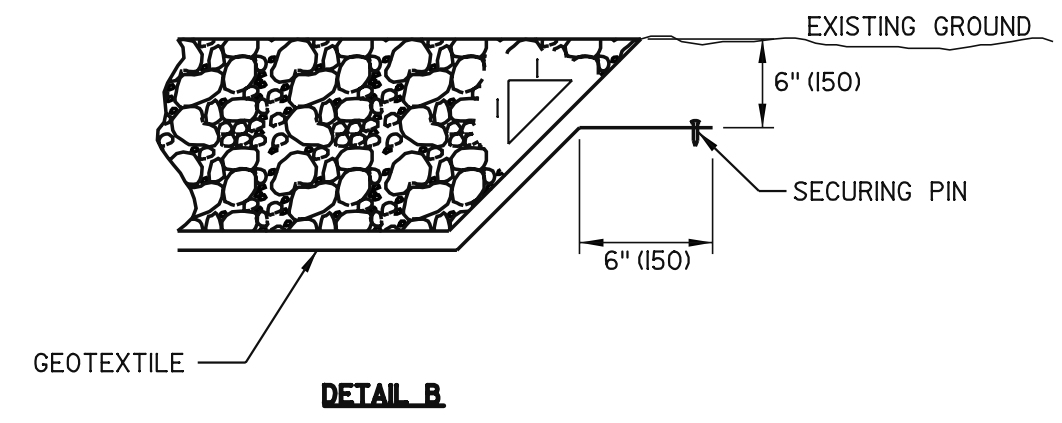


**SIDE VIEW**

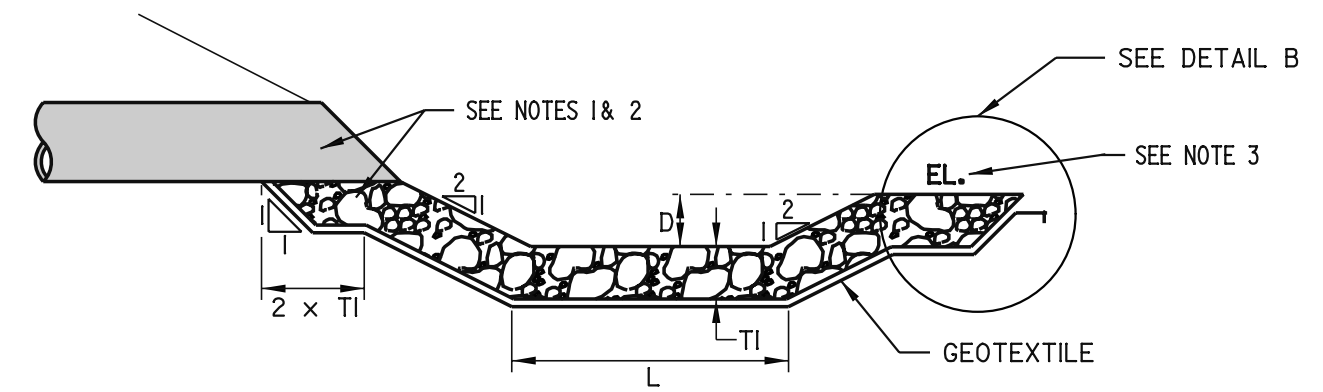
 <b>DELAWARE DEPARTMENT OF TRANSPORTATION</b>	<b>SKIMMER DEWATERING DEVICE</b>			<b>APPROVED</b>  <b>10/10/06</b> CHIEF ENGINEER DATE
	<b>STANDARD NO.</b> E-22 (2006)	<b>SHT.</b> 1	<b>OF</b> 1	<b>RECOMMENDED</b>  <b>10/13/06</b> DESIGN ENGINEER DATE



PLAN VIEW



DETAIL B



SECTION A-A

- NOTES:
1. RIPRAP IS TO BE PLACED PRIOR TO PLACING PIPE.
  2. PLACE DELAWARE NO. 3 STONE UNDER PIPE.
  3. ELEVATION (EL.) SHOULD NOT BE HIGHER THAN PIPE INVERT.
  4. REFER TO THE PIPE ENERGY DISSIPATOR SCHEDULE ON THE CONSTRUCTION PLANS FOR THE VALUE OF DIMENSION VARIABLES.



DELAWARE  
DEPARTMENT OF TRANSPORTATION

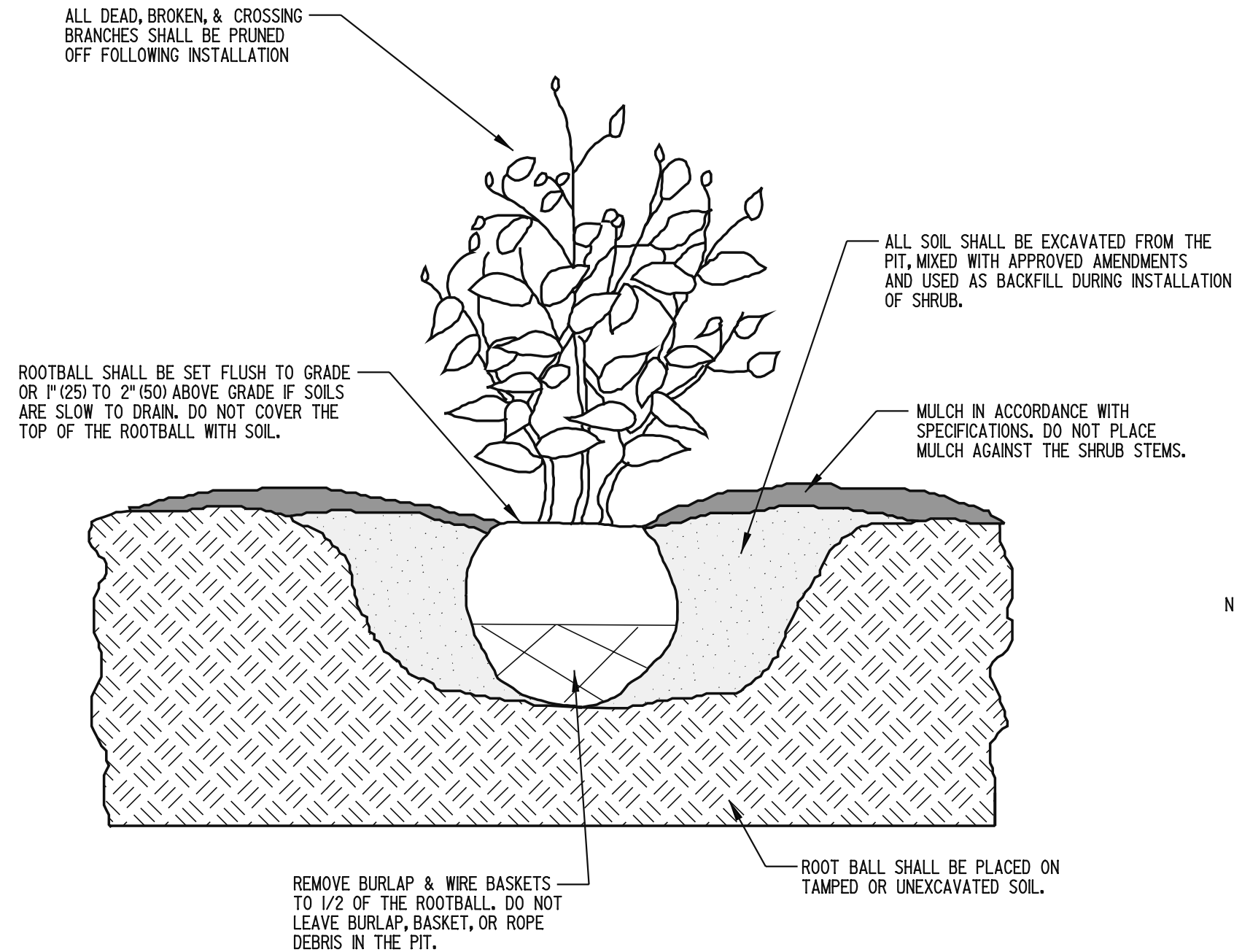
RIPRAP ENERGY DISSIPATOR DETAIL

STANDARD NO. E-26 (2006)

SHT. 1 OF 1

APPROVED *[Signature]* 10/10/06  
CHIEF ENGINEER DATE  
RECOMMENDED *[Signature]* 10/13/06  
DESIGN ENGINEER DATE





NOTES:

- 1). BASE OF PLANTING PIT SHALL BE A MINIMUM WIDTH OF TWICE THE ROOT BALL SIZE AND A MAXIMUM OF THREE TIMES THE ROOT BALL SIZE.
- 2). SHRUBS SHALL BE INSTALLED IN MASSES OF NO LESS THAN 3 PLANTS. A MINIMUM OF 6' (1800) WIDTH IS REQUIRED FROM THE BACK OF CURB TO THE EDGE OF SIDEWALK FOR INSTALLATION OF SHRUBS.
- 3). ALL PRUNING SHALL BE DONE BY AN I.S.A. CERTIFIED ARBORIST, CERTIFIED NURSERY PROFESSIONAL, OR UNDER THE DIRECTION THEREOF. DO NOT HEAVILY PRUNE SHRUBS AT PLANTING.
- 4). AUGERED HOLES SHALL BE HAND DUG TO FINAL WIDTH AND TO ELIMINATE GLAZING.
- 5). ALL SHRUB MASSES SHALL BE MULCHED AS ONE CONTINUOUS BED.

**ROADSIDE SHRUB PLANTING DETAIL**



DELAWARE  
DEPARTMENT OF TRANSPORTATION

PLANTING DETAILS

STANDARD NO. L-1 (2006)

SHT. 1 OF 3

APPROVED

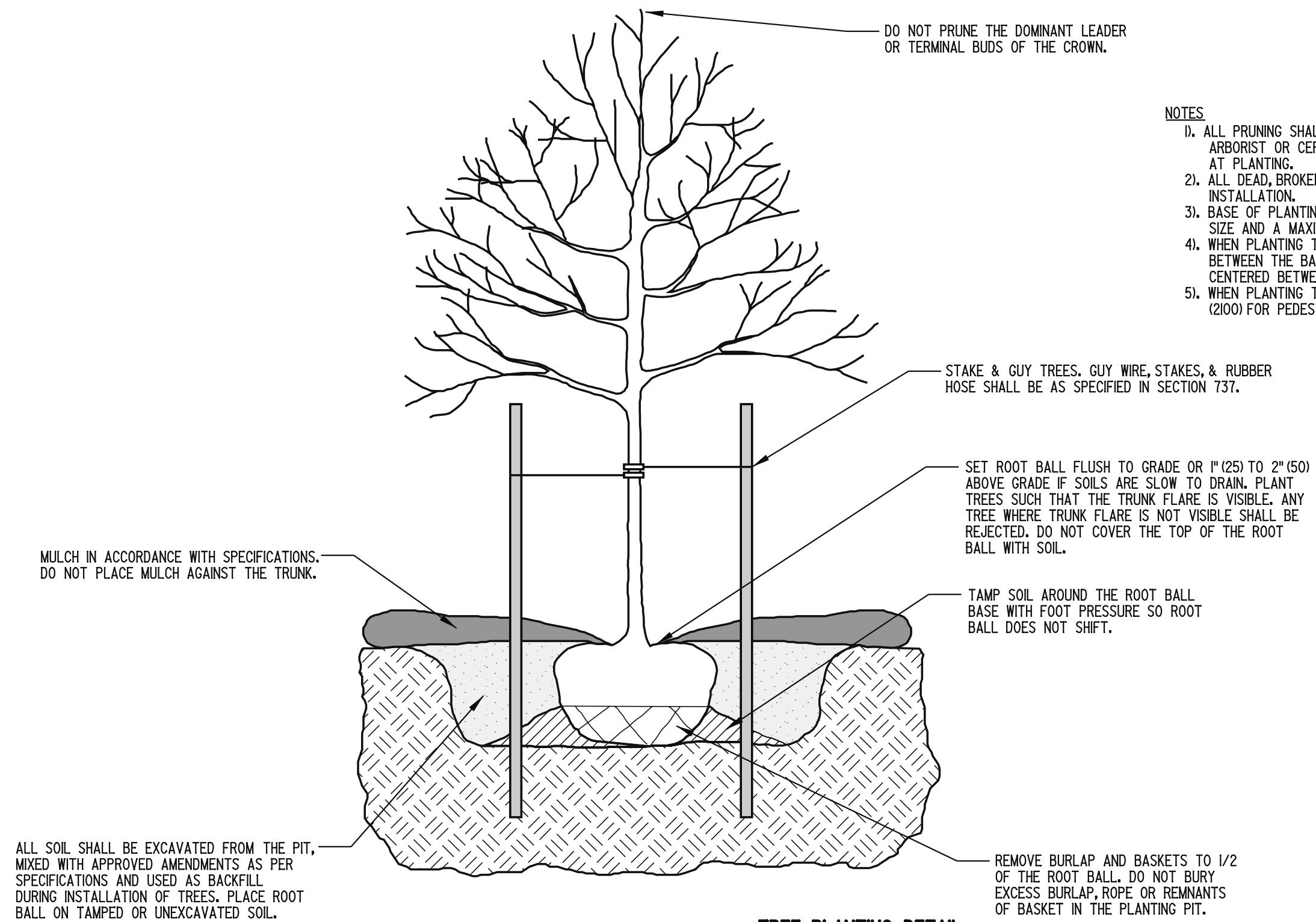
*Frank Taylor*  
CHIEF ENGINEER

10/10/06  
DATE

RECOMMENDED



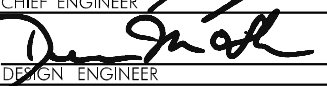
*Dan Smith*  
DESIGN ENGINEER

10/13/06  
DATE

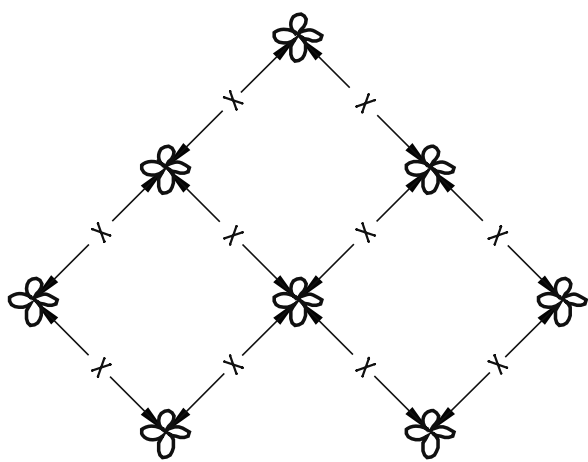


- NOTES**
- 1). ALL PRUNING SHALL BE DONE BY OR UNDER THE DIRECTION OF, AN I.S.A. CERTIFIED ARBORIST OR CERTIFIED NURSERY PROFESSIONAL. DO NOT HEAVILY PRUNE TREES AT PLANTING.
  - 2). ALL DEAD, BROKEN, & CROSSING BRANCHES SHALL BE PRUNED OFF FOLLOWING INSTALLATION.
  - 3). BASE OF PLANTING PIT SIZE SHALL BE A MINIMUM WIDTH OF TWICE THE ROOT BALL SIZE AND A MAXIMUM OF THREE TIMES THE ROOT BALL SIZE.
  - 4). WHEN PLANTING TREES ALONG STREETS, THERE MUST BE A MINIMUM OF 6' (1800) BETWEEN THE BACK OF CURB AND THE EDGE OF SIDEWALK AND SHALL BE CENTERED BETWEEN THE BACK OF CURB AND THE EDGE OF SIDEWALK.
  - 5). WHEN PLANTING TREES ALONG SIDEWALKS, THE TREE SHALL BE LIMBED TO 7' (2100) FOR PEDESTRIAN CLEARANCE.

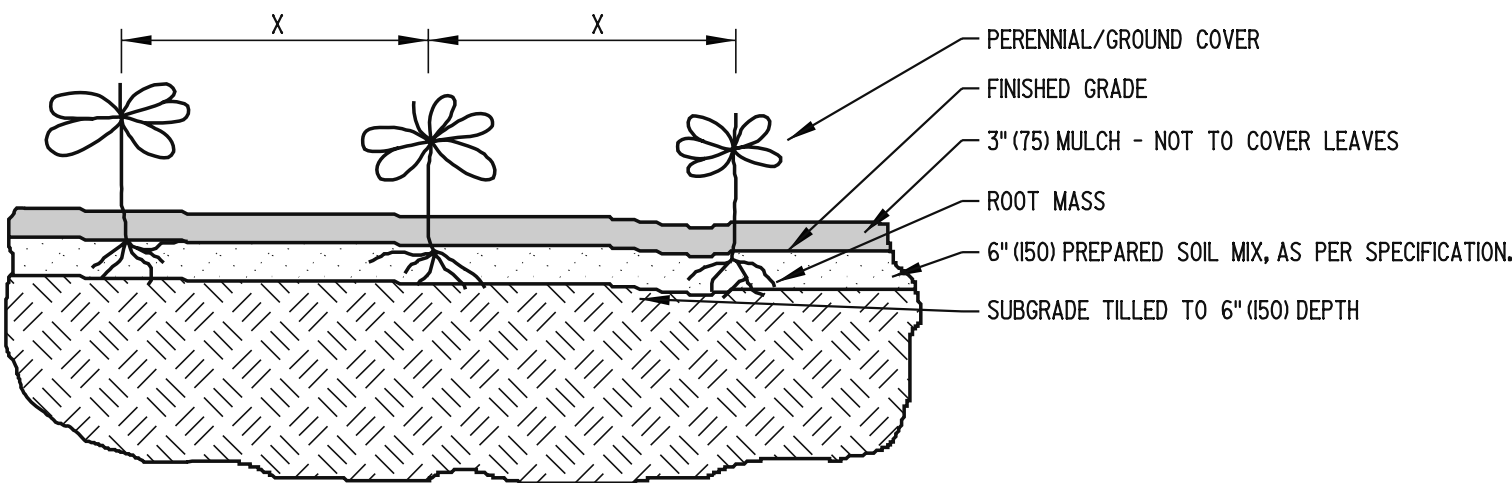
**TREE PLANTING DETAIL**

 <b>DELAWARE DEPARTMENT OF TRANSPORTATION</b>	<b>PLANTING DETAILS</b>			<b>APPROVED</b>  <b>10/10/06</b> <small>CHIEF ENGINEER DATE</small>
	<b>STANDARD NO.</b> L-1 (2006)	<b>SHT.</b> 2	<b>OF</b> 3	<b>RECOMMENDED</b>  <b>10/13/06</b> <small>DESIGN ENGINEER DATE</small>

NOTE:  
1). SEE PLANT LIST FOR SPACING (X).






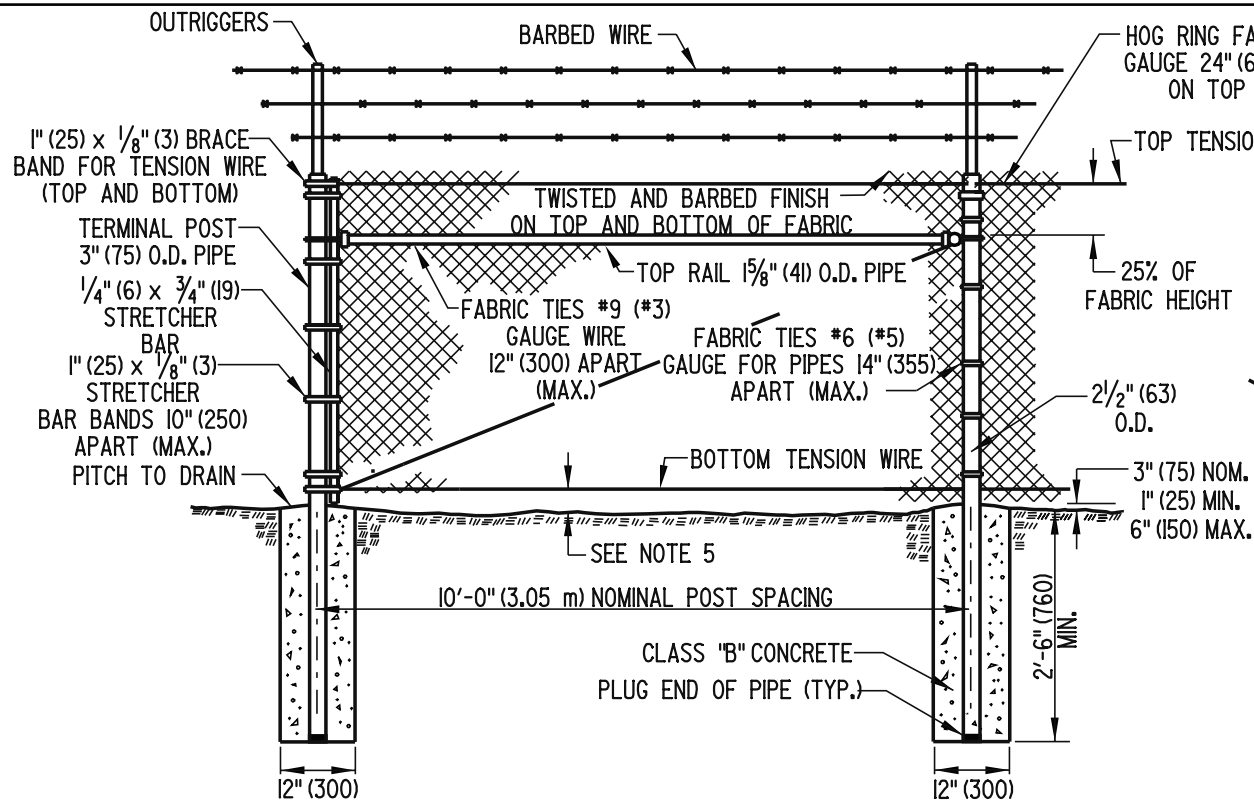
PLAN VIEW



SECTION VIEW

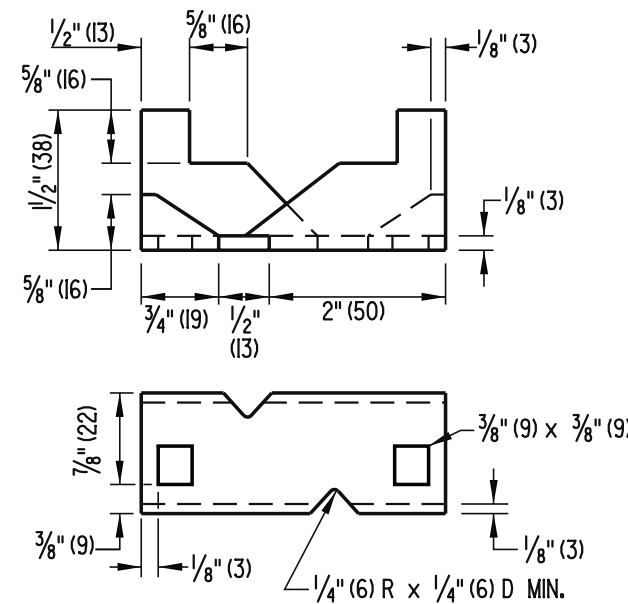
PERENNIAL/GROUNDCOVER PLANTING DETAIL

 DELAWARE DEPARTMENT OF TRANSPORTATION	PLANTING DETAILS			APPROVED  <u>10/10/06</u> CHIEF ENGINEER DATE
	STANDARD NO. L-1 (2006)	SHT. 3	OF 3	RECOMMENDED  <u>10/13/06</u> DESIGN ENGINEER DATE

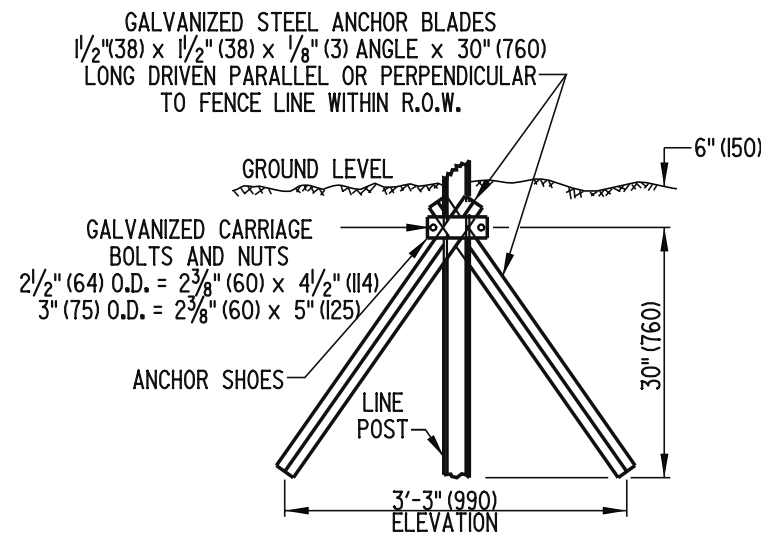


**CHAIN-LINK FENCE**

**TENSION WIRE CONNECTION AT  
ROUND INTERMEDIATE OR CORNER POST**

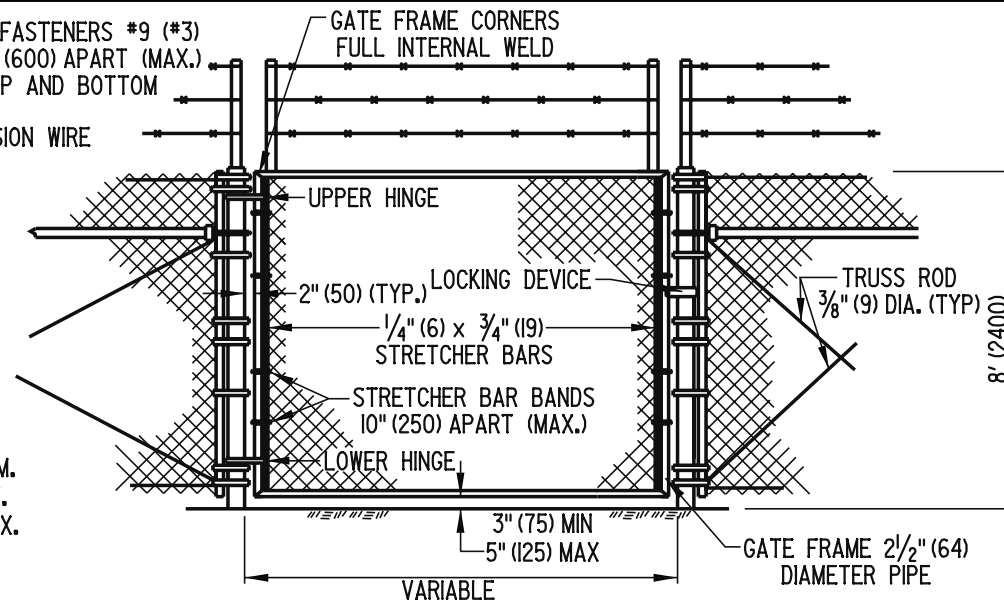


**ANCHOR SHOE**

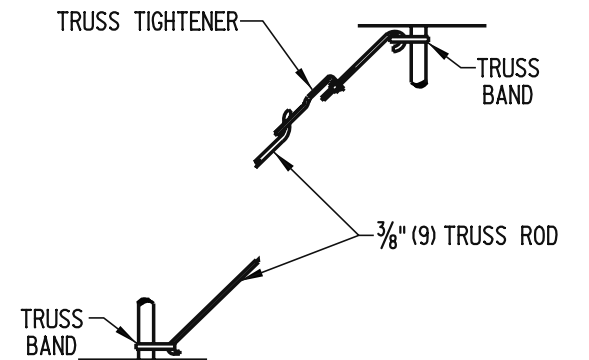


**DRIVE ANCHOR SHOE ASSEMBLY**

(SEE NOTE 4)



**GATES, CHAIN-LINK FENCE**



**CHAIN-LINK FENCE ASSEMBLIES**

**GENERAL NOTES**

**1). POSTS**

	TERMINAL, CORNER AND GATE POSTS	LINE POSTS	TOP OR BRACE RAIL
	3\" (75) O.D. PIPE	2 1/2\" (64) O.D. PIPE	1 5/8\" (41) O.D. PIPE
AASHTO TYPE	1 OR II	1 OR II	1 OR II
AASHTO GRADE	1 OR 2	1 OR 2	1 OR 2
MINIMUM LENGTH OF POST:	10'-8\" (3250)	10'-8\" (3250)	N/A
ACTUAL OUTSIDE DIAMETER	2 7/8\" (73)	2 3/8\" (60)	1.660\" (42)
WALL THICKNESS	GRADE 1 = .203\" (5.2) GRADE 2 = .160\" (4)	GRADE 1 = .154\" (3.9) GRADE 2 = .120\" (3)	GRADE 1 = .140\" (3.5) GRADE 2 = .111\" (2.8)

- 2). THE DEPTH OF CONCRETE FOOTERS IN SOLID ROCK MAY BE REDUCED TO 12\" (300) BELOW THE TOP OF ROCK AND THE DIAMETER OF THE HOLE IN ROCK MAY BE REDUCED TO 6\" (150).
- 3). BRACE BANDS AND STRETCHER BAR BANDS SHALL BE FURNISHED WITH 5/16\" (8) DIA. CARRIAGE BOLTS AND ELASTIC STOP NUTS.
- 4). DRIVE ANCHOR SHOE ASSEMBLY ONLY TO BE USED IN WET AREAS AND WITH PRIOR APPROVAL OF THE ENGINEER.
- 5). THE BOTTOM OF THE FENCE SHALL BE 2\" (50) MAX ABOVE HARD GROUND OR PAVEMENT. WHERE THERE IS SOFT GROUND, THE BOTTOM OF THE FENCE SHALL EXTEND INTO THE GROUND IN ORDER TO BE FIRM DUE TO SHIFTING SOIL OR SAND.
- 6). NUTS AND BOLTS SHALL BE TACK WELDED OR BURRED TO PREVENT REMOVAL.
- 7). IF THERE ARE ANY OPENINGS IN THE FENCE LARGER THAN 96 SQ. IN. (620 sq. cm) DUE TO UTILITIES OR GRADED TERRAIN, THE OPENINGS SHALL BE SECURED WITH A METAL GRILL THAT IS LOCKED OR PERMANENTLY WELDED.
- 8). VEGETATION AND PERMANENT STRUCTURES (SUCH AS BUILDINGS, LIGHT POLES, AND UTILITY POLES) SHALL BE AT LEAST 14' (4.2 m) FROM THE FENCE. ANY EXCEPTIONS SHALL REQUIRE THE CONSTRUCTION OF TOP GUARDS.



**DELAWARE  
DEPARTMENT OF TRANSPORTATION**

**CHAIN LINK FENCE DETAILS**

**STANDARD NO. M-7 (2006)**

**SHT. 1 OF 1**

**APPROVED**

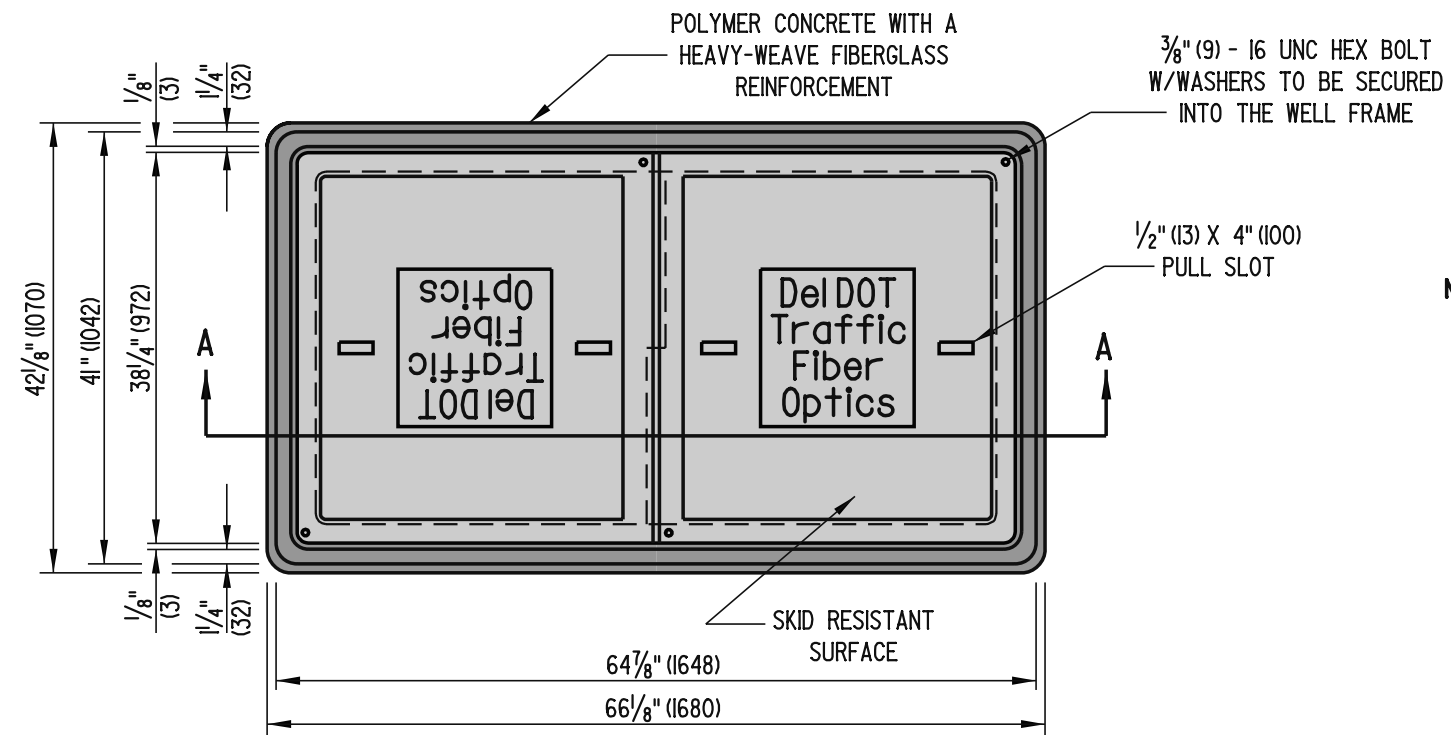
*Frank Taylor*  
CHIEF ENGINEER

*10/10/06*  
DATE

**RECOMMENDED**

*Dan Smith*  
DESIGN ENGINEER

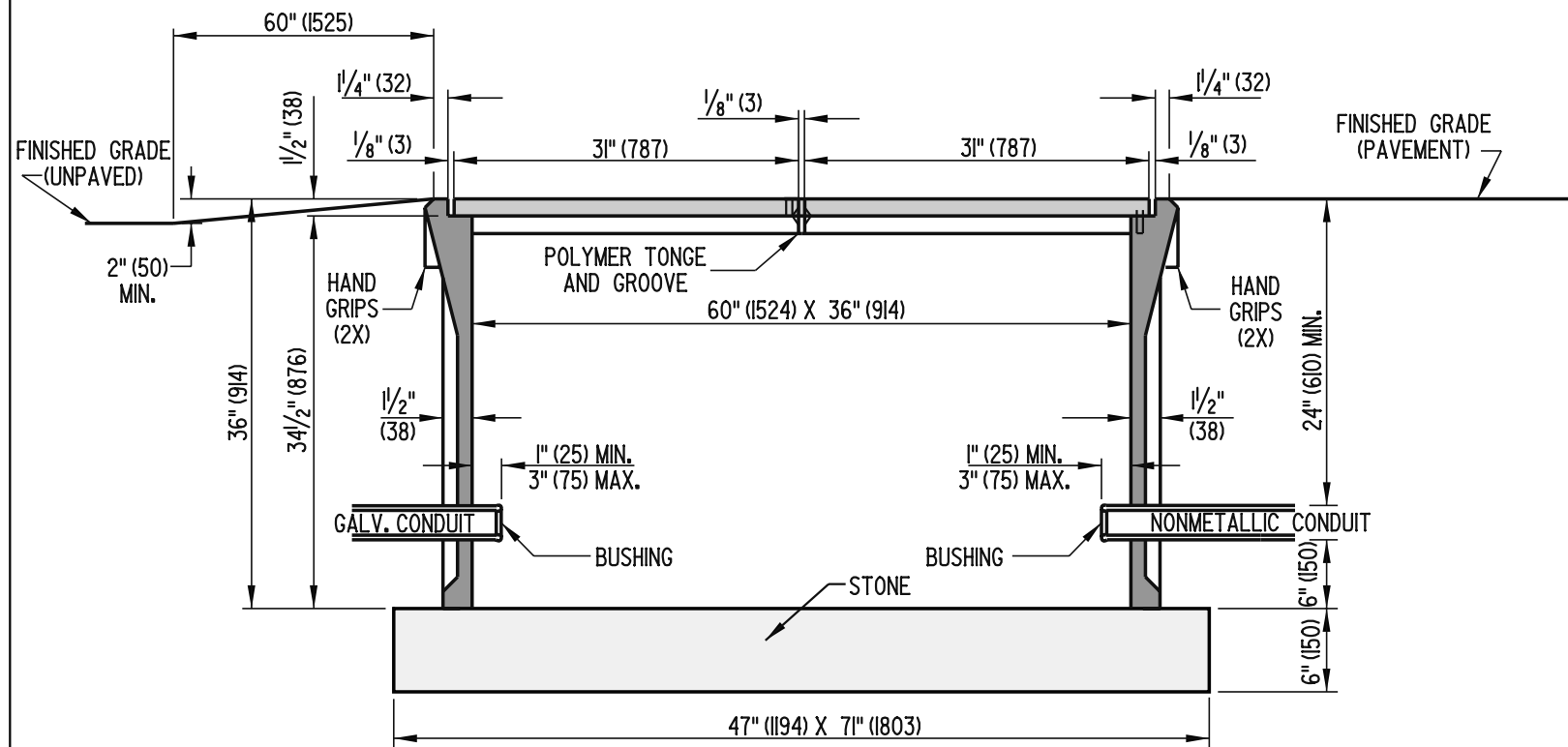
*10/13/06*  
DATE



**NOTES:**

- 1). TYPE 7 CONDUIT JUNCTION WELL SHALL BE PRECAST POLYMER CONCRETE.
- 2). ALL CONDUIT JUNCTION WELLS CONSTRUCTED WITHIN PAVEMENT, SIDEWALKS, ETC. WILL BE CONSTRUCTED FLUSH WITH THE SURFACE OF THE SAME. INSTALLATION IN UNPAVED AREAS WILL BE CONSTRUCTED ABOVE GRADE AND GRADED TO DRAIN AWAY FROM THE CONDUIT JUNCTION WELL.
- 3). POLYMER CONCRETE COVERS SHALL BE THE HEAVY DUTY TYPE WITH A DESIGN LOAD OF 15,000 LBS (6800 kg) OVER A 10" (255) SQUARE.

**PLAN VIEW**



**SECTION A-A**



DELAWARE  
DEPARTMENT OF TRANSPORTATION

**CONDUIT JUNCTION WELL, TYPE 7**

STANDARD NO. T-13 (2006)

SHT. 2 OF 3

APPROVED

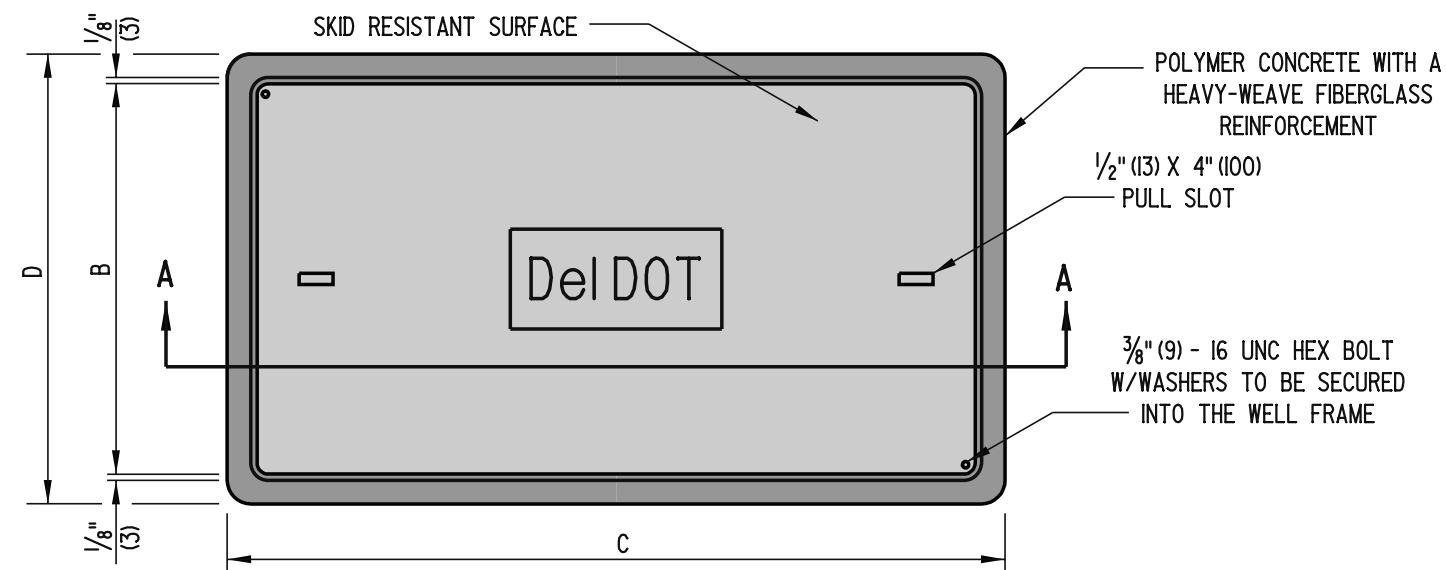
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CHIEF ENGINEER

10/10/06  
DATE

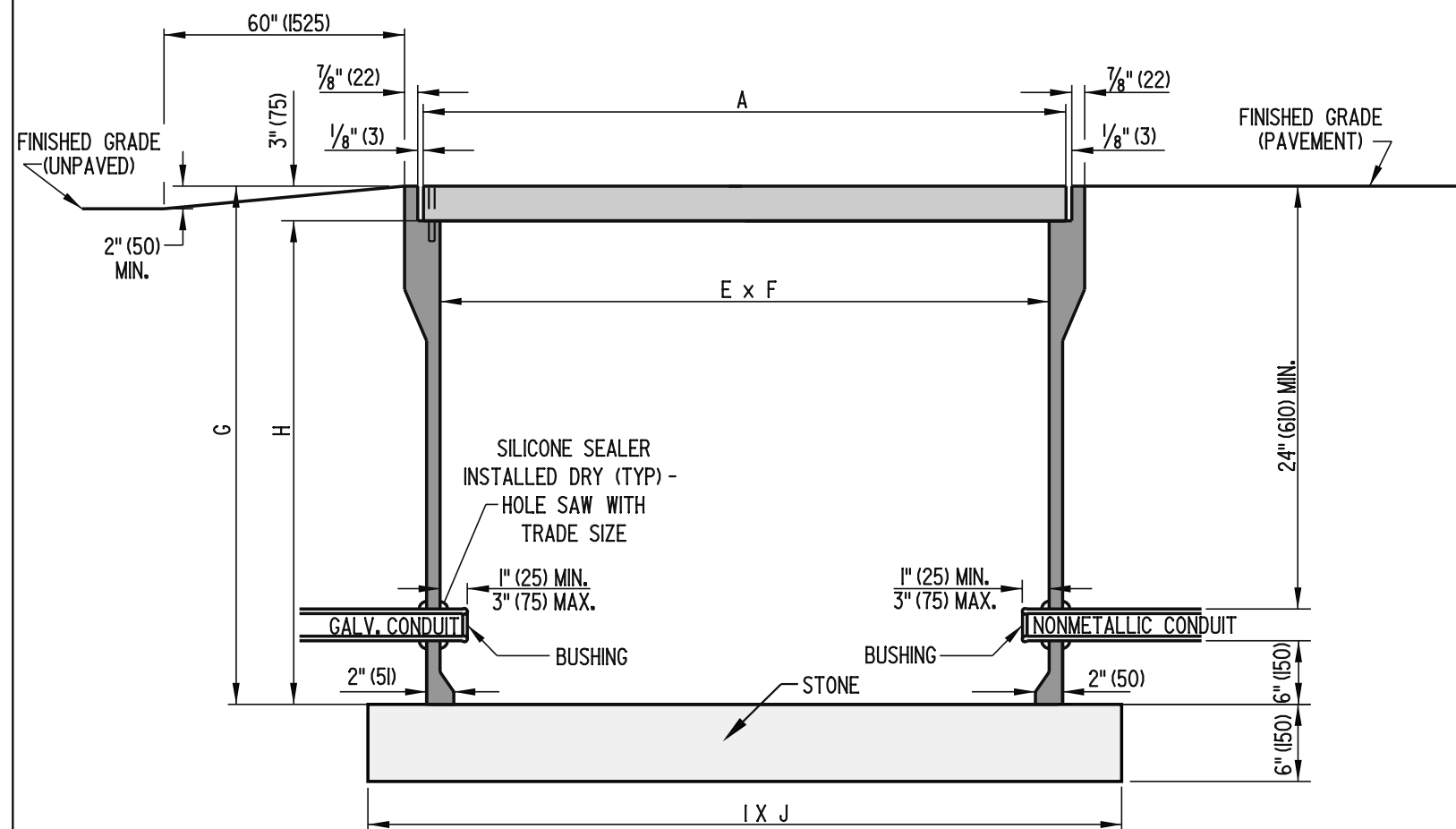
RECOMMENDED

*[Signature]*  
DESIGN ENGINEER

10/13/06  
DATE



**PLAN VIEW**



**SECTION A-A**

**NOTES:**

- 1). TYPES 8 & 10 CONDUIT JUNCTION WELLS SHALL BE PRECAST POLYMER CONCRETE.
- 2). ALL CONDUIT JUNCTION WELLS CONSTRUCTED WITHIN PAVEMENT, SIDEWALKS, ETC. WILL BE CONSTRUCTED FLUSH WITH THE SURFACE OF THE SAME. INSTALLATION IN UNPAVED AREAS WILL BE CONSTRUCTED ABOVE GRADE AND GRADED TO DRAIN AWAY FROM THE CONDUIT JUNCTION WELL.
- 3). POLYMER CONCRETE COVERS SHALL BE THE HEAVY-DUTY TYPE WITH A DESIGN LOAD OF 15,000 LBS (6800 kg) OVER A 10\" (255) SQUARE.

DIMENSIONS		TYPE 8	TYPE 10
COVER	A	47 5/8\" (1210)	35 5/8\" (905)
	B	30 1/8\" (765)	24\" (610)
FRAME	C	49 5/8\" (1261)	37 5/8\" (956)
	D	32 1/8\" (816)	26\" (660)
	E	45 5/8\" (1159)	33 7/8\" (860)
	F	28 1/8\" (714)	22 1/4\" (565)
	G	36\" (914)	30\" (1067)
	H	33\" (838)	27\" (991)
BASE	I	58\" (1473)	46\" (1168)
	J	40\" (1016)	34\" (864)



**DELAWARE  
DEPARTMENT OF TRANSPORTATION**

**CONDUIT JUNCTION WELLS, TYPES 8 & 10**

**STANDARD NO. T-13 (2006)**

**SHT. 3 OF 3**

**APPROVED**

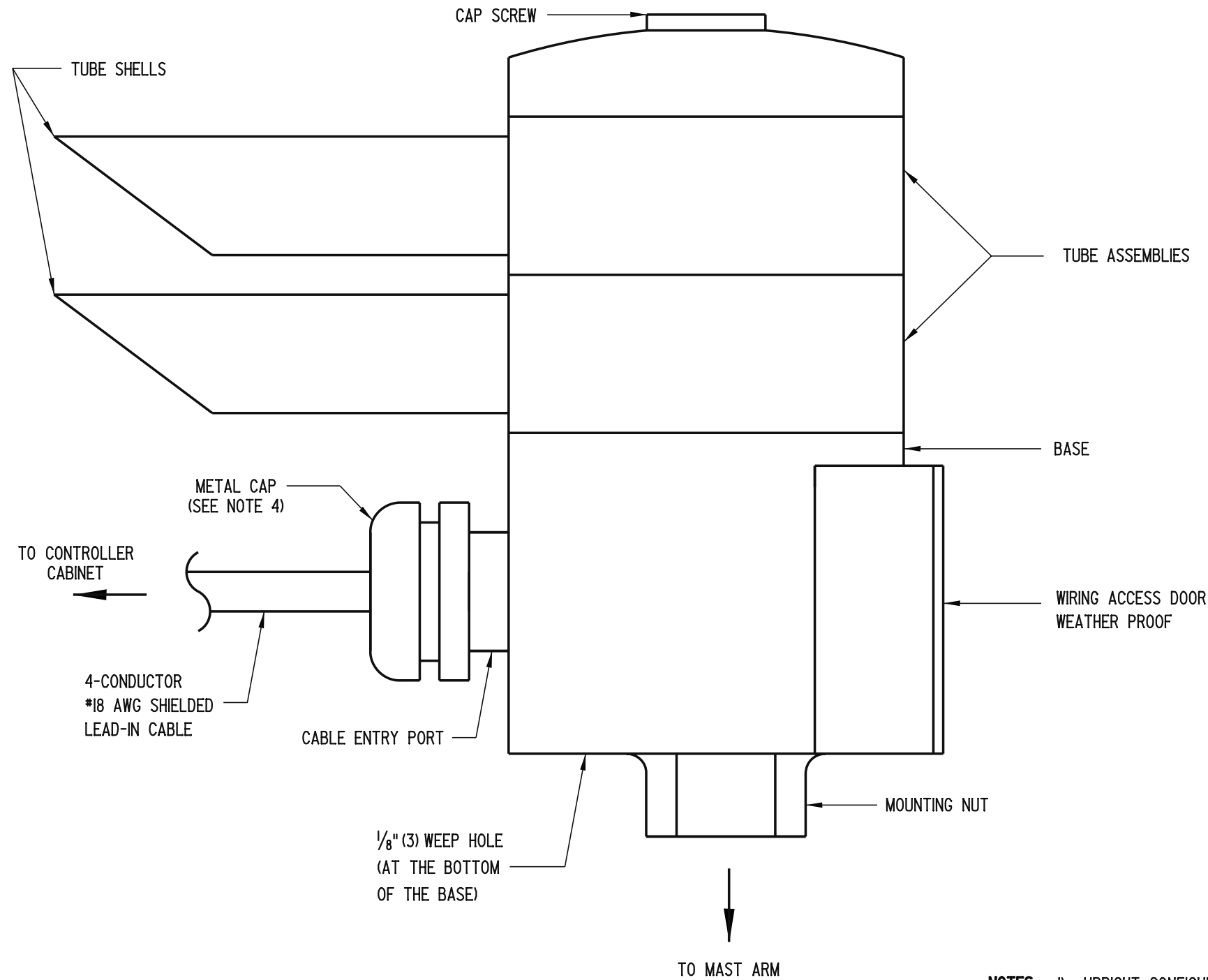
*[Signature]*  
CHIEF ENGINEER

*10/10/06*  
DATE

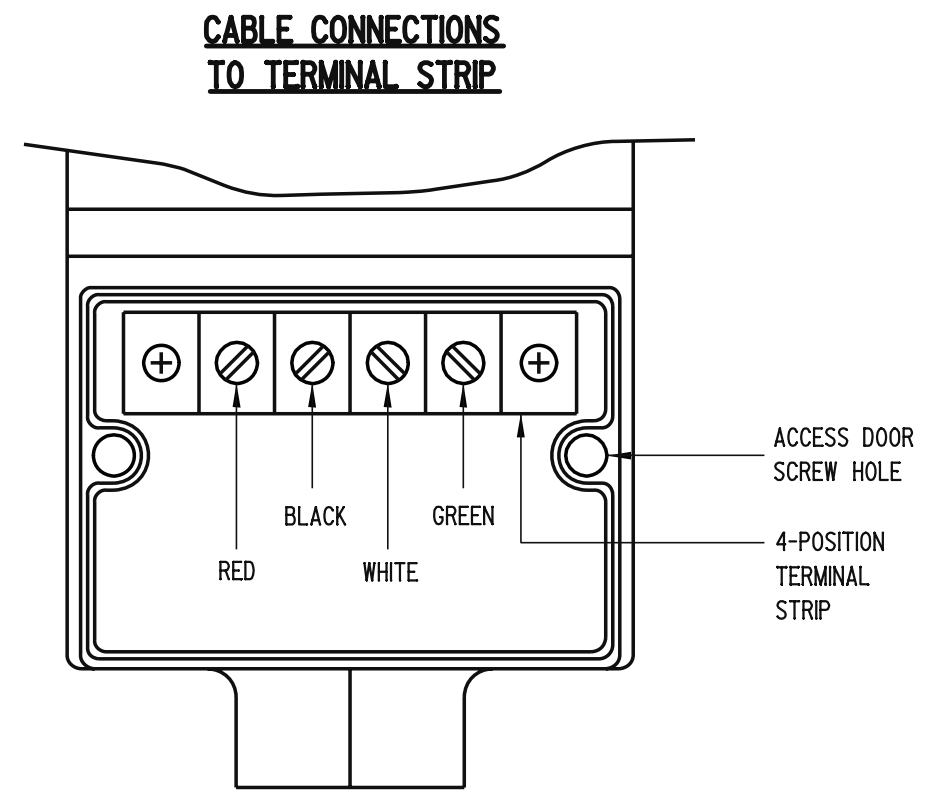
**RECOMMENDED**

*[Signature]*  
DESIGN ENGINEER

*10/13/06*  
DATE






**SIDE VIEW**



**FRONT VIEW  
(CABLE IS NOT SHOWN)**

- NOTES:**
- 1). UPRIGHT CONFIGURATION SHALL BE USED FOR MOUNTING ON MAST ARMS, SIGNAL HEAD FRAMEWORKS AND PEDESTALS.
  - 2). UPRIGHT MOUNTING HARDWARE SHALL BE SUPPLIED BY THE DEPARTMENT.
  - 3). TEFLON TAPE SHALL BE APPLIED TO THREADS BEFORE MOUNTING.
  - 4). ROUTE THE LEAD-IN CABLE THROUGH THE METAL CAP AND THE RUBBER PLUG. REPLACE THE METAL CAP, SEALING THE CABLE ENTRY PORT. TIGHTEN THE METAL CAP SO THE CABLE WILL NOT SLIDE THROUGH THE RUBBER PLUG.

 <b>DELAWARE DEPARTMENT OF TRANSPORTATION</b>	<b>EMERGENCY PREEMPTION RECEIVER, UPRIGHT MOUNT</b>		<b>APPROVED</b>  <b>10/10/06</b> <small>CHIEF ENGINEER DATE</small>
	<b>STANDARD NO. T-14 (2006)</b>	<b>SHT. 1 OF 2</b>	<b>RECOMMENDED</b>  <b>10/13/06</b> <small>DESIGN ENGINEER DATE</small>