DESIGN DEVELOPMENT
SUBMITTAL 5/4/17

WASHINGTON DEPARTMENT OF FISH AND WILDLIFE

HOODSPORT HATCHERY
REARING POND REPLACEMENT
MN:H23:16-1

INDEX

SHEET NO.

INDEX

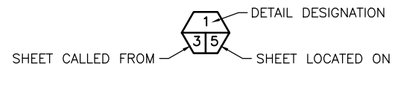
SHEET NO.

X DENOTES SHEET INCLUDED IN DRAWING SET

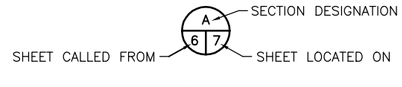
ABBREVIATIONS

ALUM	–	ALUMINUM
L	–	ANGLE
APPROX.	–	APPROXIMATELY
BM	–	BENCH MARK
CL	–	CENTERLINE
CLR.	–	CLEARANCE
CONC	–	CONCRETE
ø	–	DIAMETER
ELEV	–	ELEVATION
F.B.	–	FLAT BAR
F.C.	–	FISH CONDUIT
FTG	–	FOOTING
F.W.	–	FISHWAY
GALV	–	GALVANIZED
GA.	–	GAUGE
HSS	–	STRUCTURAL TUBING
ID	–	INSIDE DIAMETER
IE	–	INVERT ELEVATION
LFW	–	LOWER FISHWAY
LG	–	LONG
M.B.	–	MACHINE BOLT
MFG.	–	MANUFACTURER'S
MISC.	–	MISCELLANEOUS
MOD.	–	MODEL
OC	–	ON CENTER
OSB	–	ORIENTED STRAND BOARD
OD	–	OUTSIDE DIAMETER
PAV'T	–	ASPHALT CONCRETE PAVEMENT
PL	–	PLATE
PT	–	PRESSURE TREATED
REQ'D	–	REQUIRED
SEC.	–	SECTION
S.F.	–	SQUARE FEET
SHT.	–	SHEET
SPEC'S.	–	PROJECT SPECIFICATIONS
S.S.	–	STAINLESS STEEL
TYP	–	TYPICAL
UFW	–	UPPER FISHWAY
W.S.	–	WATER SURFACE

SHEET SYMBOLS



DETAIL



SECTION

NOTE REFERENCE

REFERENCE DESIGNATION TO NOTE OR A PART OR MATERIAL IN A SCHEDULE/TABLE

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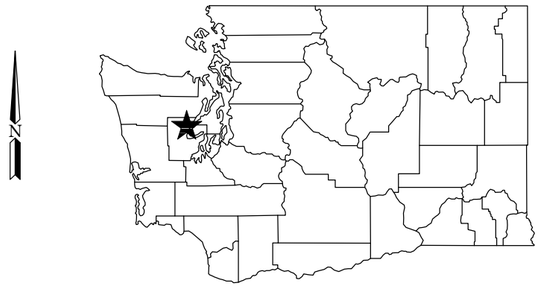
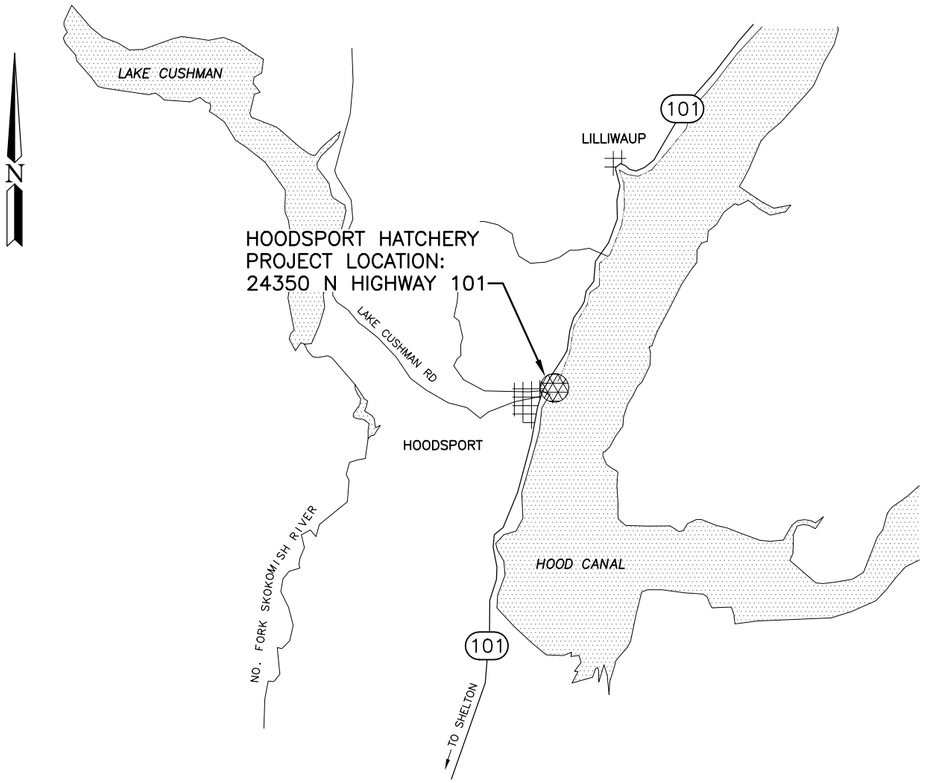
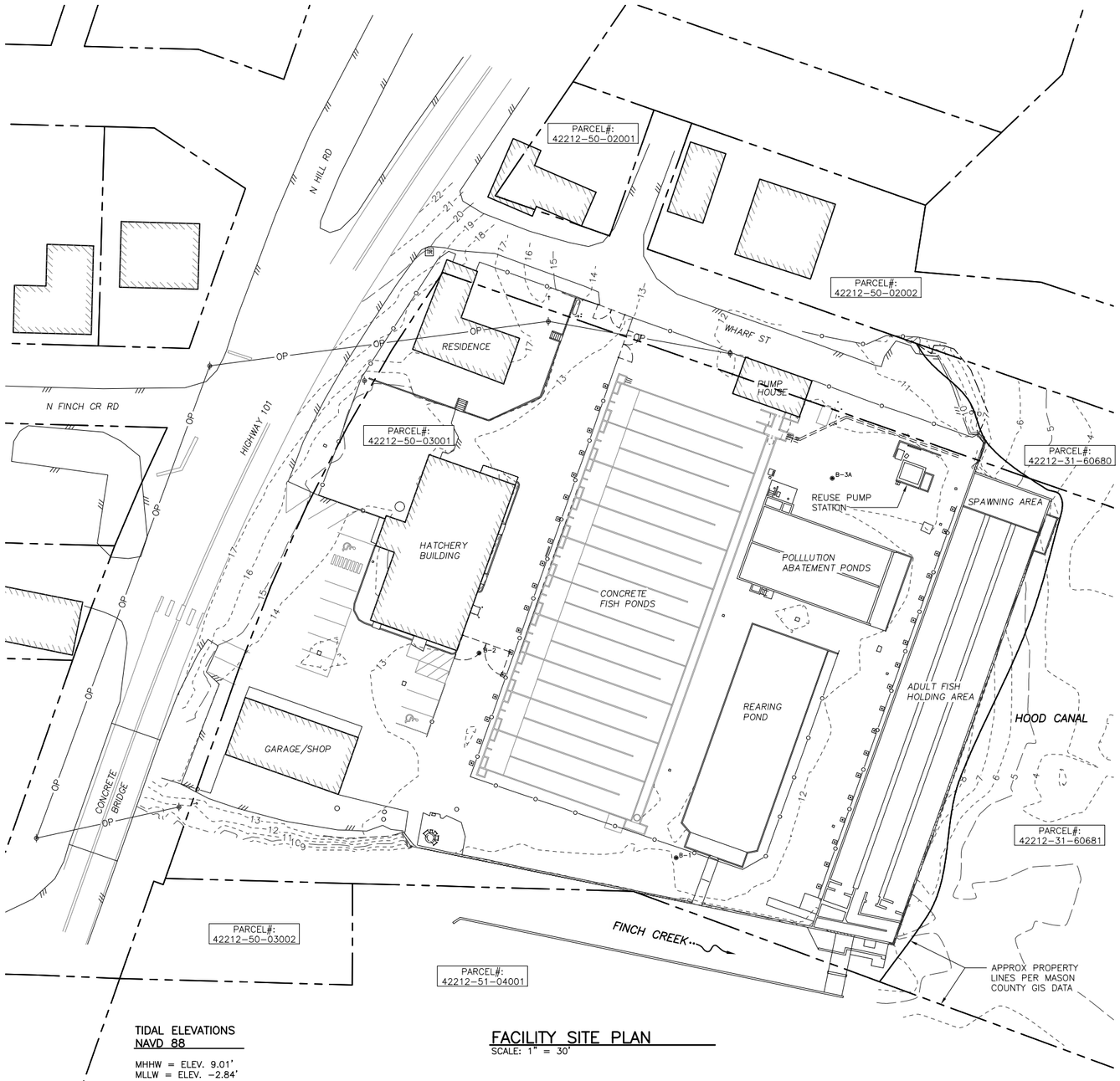
G0.1	
PROJECT NO.	
MN:H23:16-1	
SHEET	OF
1	





VICINITY MAP
NOT TO SCALE



TIDAL ELEVATIONS
NAVD 88

MHHW = ELEV. 9.01'
MLLW = ELEV. -2.84'

FACILITY SITE PLAN
SCALE: 1" = 30'

GRAPHIC SCALE
0 10 20 30 90
5 15 25 60
SCALE: 1" = 30'

NOT FOR CONSTRUCTION

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WASHINGTON STATE
DEPARTMENT OF FISH AND WILDLIFE

SYM	DATE	REVISION DESCRIPTION	BY
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		CHIEF ENGINEER ..... DATE:	
		PROGRAM ..... DATE:	

0 ——— 1"
BAR MEASURES ONE INCH ON ORIGINAL DRAWINGS

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CHECKED BY DJN
DRAWN BY EGN
DATE MAY 2017

HOODSPORT HATCHERY
REARING POND REPLACEMENT
STATE, VICINITY & EXISTING SITE PLAN

SHEET NUMBER G0.2
PROJECT NO. MN:H23:16-1
SHEET 2 OF

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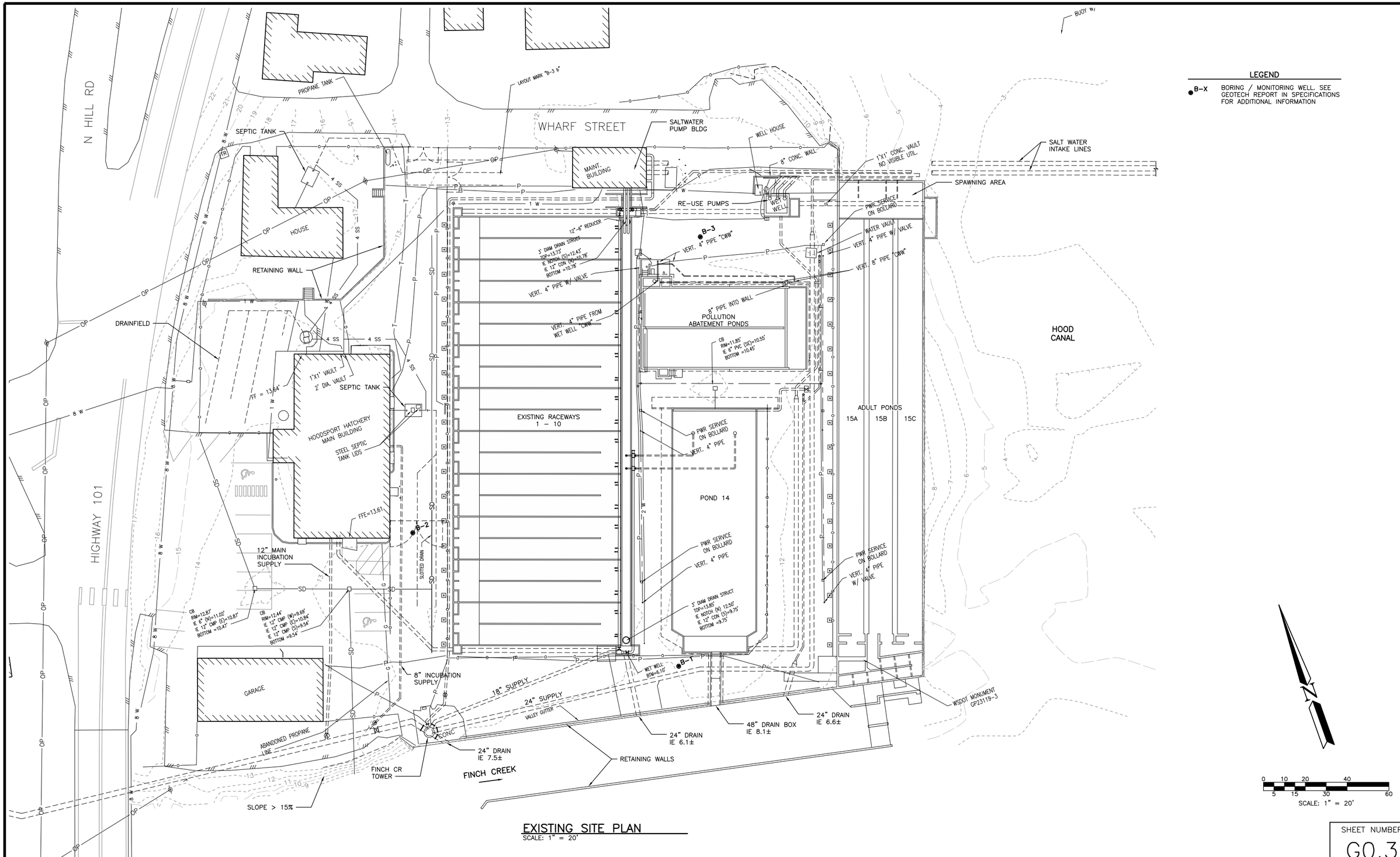

EXISTING SITE PLAN
SCALE: 1" = 20'

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HOODSPORT HATCHERY
REARING POND REPLACEMENT
EXISTING CONDITION SITE PLAN

SHEET NUMBER G0.3
PROJECT NO. MN:H23:16–1
SHEET 3 OF

EROSION CONTROL PLANS STANDARD NOTES:

1. APPROVAL OF THIS EROSION/SEDIMENTATION CONTROL (ESC) PLAN DOES NOT CONSTITUTE AN APPROVAL OF PERMANENT ROAD OR DRAINAGE DESIGN (E.G. SIZE AND LOCATION OF ROADS, PIPES, RESTRICTORS, CHANNELS, RETENTION FACILITIES, UTILITIES).
2. THE IMPLEMENTATION OF THESE ESC PLANS AND THE CONSTRUCTION, MAINTENANCE, REPLACEMENT, AND UPGRADING OF THESE ESC FACILITIES IS THE RESPONSIBILITY OF THE APPLICANT/CONTRACTOR UNTIL ALL CONSTRUCTION IS COMPLETED AND APPROVED AND VEGETATION/LANDSCAPING IS ESTABLISHED.
3. THE BOUNDARIES OF THE CLEARING LIMITS SHOWN ON THIS PLAN SHALL BE CLEARLY FLAGGED IN THE FIELD PRIOR TO CONSTRUCTION. DURING THE CONSTRUCTION PERIOD, NO DISTURBANCE BEYOND THE FLAGGED CLEARING LIMITS SHALL BE PERMITTED. THE FLAGGING SHALL BE MAINTAINED BY THE APPLICANT/CONTRACTOR FOR THE DURATION OF CONSTRUCTION.
4. THE ESC FACILITIES SHOWN ON THIS PLAN MUST BE CONSTRUCTED IN CONJUNCTION WITH ALL CLEARING AND GRADING ACTIVITIES, AND IN SUCH A MANNER AS TO INSURE THAT SEDIMENT AND SEDIMENT LADEN WATER DO NOT ENTER THE DRAINAGE SYSTEM, ROADWAYS, OR VIOLATE APPLICABLE WATER STANDARDS.
5. THE ESC FACILITIES SHOWN ON THIS PLAN ARE THE MINIMUM REQUIREMENTS FOR ANTICIPATED SITE CONDITIONS. DURING THE CONSTRUCTION PERIOD, THESE ESC FACILITIES SHALL BE UPGRADED AS NEEDED FOR UNEXPECTED STORM EVENTS AND TO ENSURE THAT SEDIMENT AND SEDIMENT–LADEN WATER DO NOT LEAVE THE SITE.
6. THE ESC FACILITIES SHALL BE INSPECTED DAILY BY THE APPLICANT/CONTRACTOR AND MAINTAINED AS NECESSARY TO ENSURE THEIR CONTINUED FUNCTIONING.
7. THE ESC FACILITIES ON INACTIVE SITES SHALL BE INSPECTED AND MAINTAINED A MINIMUM OF ONCE A MONTH OR WITHIN THE 48 HOURS FOLLOWING A MAJOR STORM EVENT.
8. AT NO TIME SHALL MORE THAN ONE FOOT OF SEDIMENT BE ALLOWED TO ACCUMULATE WITHIN A TRAPPED CATCH BASIN. ALL CATCH BASINS AND CONVEYANCE LINES SHALL BE CLEANED PRIOR TO PAVING. THE CLEANING OPERATION SHALL NOT FLUSH SEDIMENT LADEN WATER INTO THE DOWNSTREAM SYSTEM.
9. STABILIZED CONSTRUCTION ENTRANCES SHALL BE INSTALLED AT THE BEGINNING OF CONSTRUCTION AND MAINTAINED FOR THE DURATION OF THE PROJECT. ADDITIONAL MEASURES MAY BE REQUIRED TO INSURE THAT ALL PAVED AREAS ARE KEPT CLEAN FOR THE DURATION OF THE PROJECT.

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DRAWN BY _____
DATE MAY 2017

HOODSPORT HATCHERY
REARING POND REPLACEMENT
EROSION CONTROL NOTES

SHEET NUMBER
G0.5

PROJECT NO.
MN:H23:16–1

SHEET 5 OF

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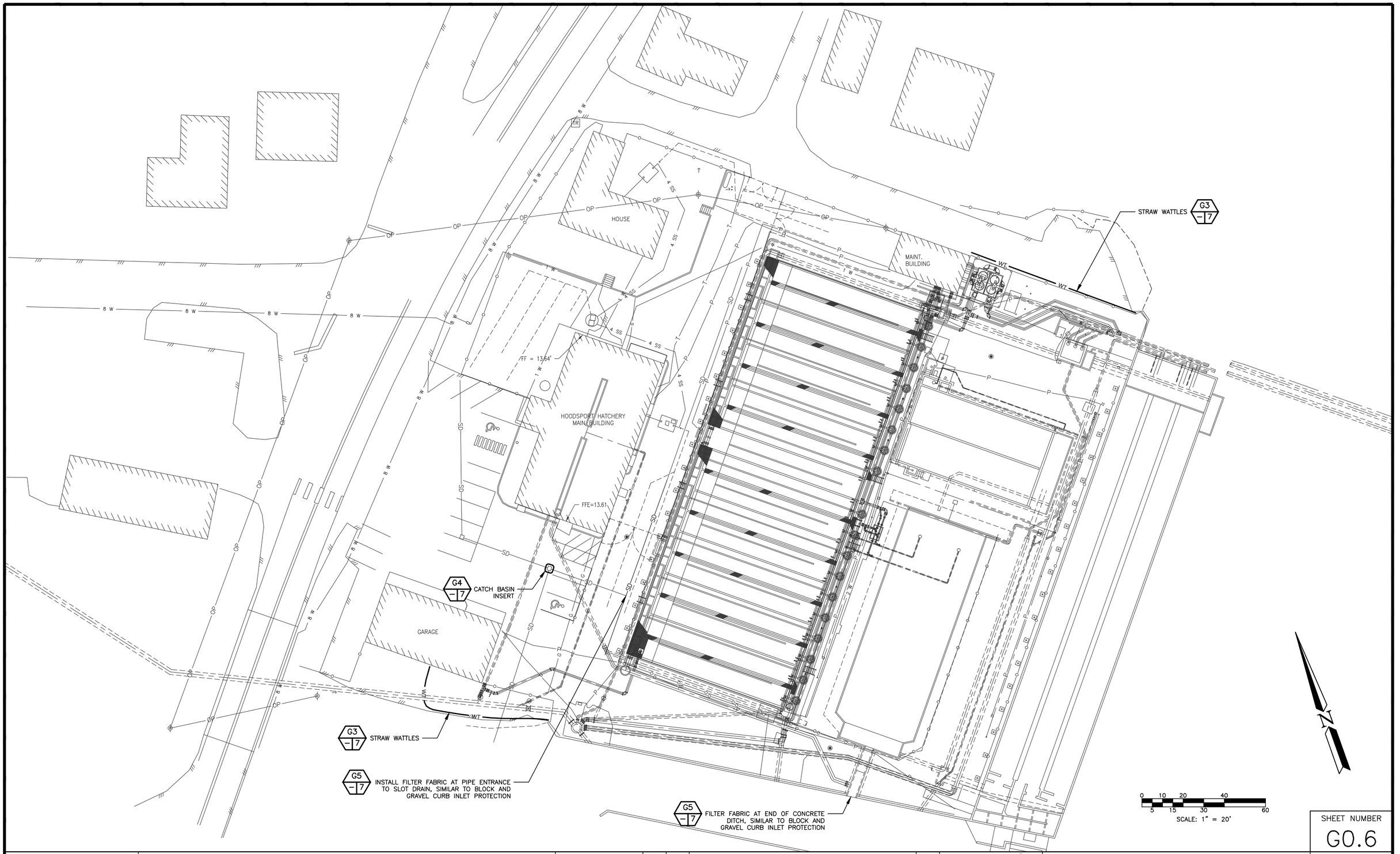

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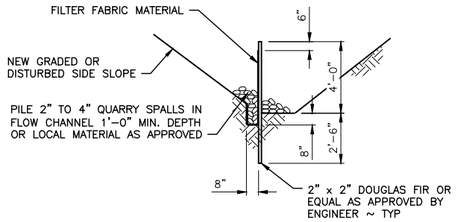
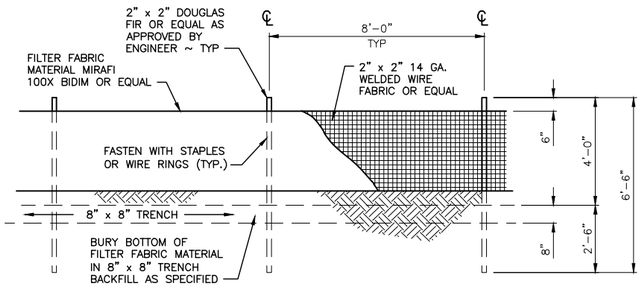
DESIGNED BY
CHECKED BY
DRAWN BY
DATE MAY 2017

HOODSPORT HATCHERY
REARING POND REPLACEMENT
EROSION CONTROL SITE PLAN

SHEET NUMBER G0.6
PROJECT NO. MN:H23:16-1
SHEET 6 OF



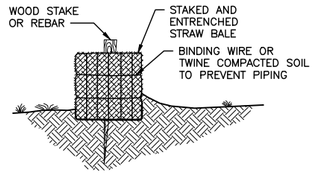
SECTION



FILTER FABRIC FENCE
NOT TO SCALE — G1-7

FILTER FABRIC NOTES:

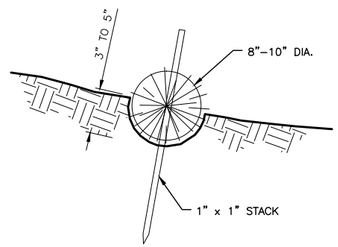
1. FILTER FABRIC SHALL BE PURCHASED CONTINUOUS ROLL CUT TO LENGTH OF BARRIER AS NEEDED. IF JOINTS ARE NECESSARY FABRIC SHALL BE SPLICED TOGETHER ONLY AT SUPPORT POSTS WITH A MINIMUM OF (6) INCH OVERLAP. BOTH ENDS SHALL BE SECURED AS REQUIRED.
2. FILTER FABRIC SHALL BE INSTALLED TO FOLLOW CONTOURS. FENCE POSTS SHALL BE SPACED A MAXIMUM OF EIGHT (8) FEET APART UNLESS OTHERWISE SHOWN HEREIN. ALL POSTS SHALL BE DRIVEN INTO THE GROUND A MINIMUM OF 30 INCHES.
3. A TRENCH SHALL BE EXCAVATED, ROUGHLY EIGHT (8) INCHES WIDE BY EIGHT (8) INCHES DEEP UP SLOPE AND ADJACENT TO THE POST TO ALLOW THE FILTER FABRIC TO BE BURIED.
4. WHEN STANDARD STRENGTH FILTER FABRIC IS UTILIZED, A WIRE SINGLE SPACE MESH SUPPORT FENCE SHALL BE FASTENED TO THE UPSLOPE (OR UPSTREAM) SIDE OF THE POSTS USING ONE (1) INCH MINIMUM LENGTH WIRE STAPLES, TIE WIRE OR APPROVED HOG RINGS. ALL WIRE SUPPORT SHALL EXTEND INTO THE TRENCH A MINIMUM OF FOUR (4) INCHES AND SHALL NOT EXTEND MORE THAN 36 INCHES ABOVE ORIGINAL GRADE.
5. ALL FILTER FABRIC SHALL BE STAPLED OR WIRED TO SUPPORT FENCING AND A MINIMUM OF 20 INCHES OF FABRIC SHALL BE EXTENDED INTO THE TRENCH. FILTER FABRIC SHALL NOT BE STAPLED OR FASTENED TO EXISTING TREES OF STRUCTURES UNLESS OTHERWISE APPROVED BY THE ENGINEER.
6. IF HIGH STRENGTH FILTER FABRIC AND CLOSER SPACING ARE USED, THE WIRE SUPPORT FENCING MAY BE ELIMINATED. HIGH STRENGTH FABRIC SHALL BE STAPLED OR WIRED DIRECTLY TO POSTS AS REQUIRED BY THE ENGINEER.
7. CUTOFF TRENCH SHALL BE BACKFILLED WITH 3/4 INCH MINIMUM DIAMETER WASHED GRAVEL OR OTHER SIMILAR SOURCE AS APPROVED BY THE ENGINEER.
8. FILTER FENCING SHALL BE INSTALLED WHERE SHOWN ON THE PLAN, OR AS MARKED IN THE FIELD BY THE ENGINEER, PRIOR TO COMMENCEMENT OF WORK. ALL FENCING SHALL BE INSPECTED DAILY DURING CONSTRUCTION AND AFTER EACH SIGNIFICANT RAINFALL EVENT UNTIL SITE HAS BEEN PERMANENTLY STABILIZED. ANY REQUIRED REPAIRS SHALL BE MADE IMMEDIATELY.
9. REMOVAL OF TRAPPED SEDIMENT SHALL BE PERFORMED WHEN AMOUNTS REACH APPROXIMATELY 1/3 HEIGHT OF THE FENCE.
10. FILTER FENCING SHALL REMAIN IN-PLACE UNTIL SITE HAS BEEN REVEGETATED TO ORIGINAL CONDITION OR DIRECTED BY THE ENGINEER.



STRAW BALE DETAIL
NOT TO SCALE — G2-7

STRAW BALES

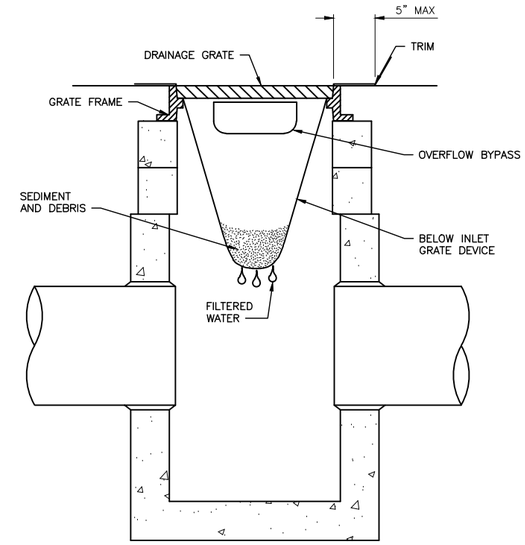
1. BALES SHALL BE PLACED IN A SINGLE ROW, LENGTHWISE ON THE CONTOUR, WITH ENDS OF ADJACENT BALES TIGHTLY ABUTTING ONE ANOTHER.
2. THE BARRIER SHALL BE ENTRENCHED AND BACKFILLED. A TRENCH SHALL BE A MINIMUM OF 4 INCHES. BACKFILL SOIL SHALL CONFORM TO THE GROUND LEVEL ON THE DOWNHILL SIDE AND SHALL BE BUILT UP 4 INCHES AGAINST THE UPHILL SIDE OF THE BARRIER. EACH BALE SHALL BE SECURELY ANCHORED BY AT LEAST 2 STAKES OR REBAR DRIVEN THROUGH THE BALE.
3. THE GAP BETWEEN THE BALES SHALL BE CHINKED (FILLED BY WEDGING) WITH STRAW TO PREVENT WATER FROM ESCAPING BETWEEN THE BALES.



STRAW WATTLE DETAIL
NOT TO SCALE — G3-7

CONSTRUCTION SPECIFICATIONS:

1. PREPARE THE SLOPE BEFORE THE WATTLING PROCEDURE IS STARTED.
2. SHALLOW GULLIES SHOULD BE SMOOTHED AS WORK PROGRESSES.
3. DIG SMALL TRENCHES ACROSS THE SLOPE ON CONTOUR, TO PLACE ROLLS IN. THE TRENCH SHOULD BE DEEP ENOUGH TO ACCOMMODATE HALF THE THICKNESS OF THE ROLL. WHEN THE SOIL IS LOOSE AND UNCOMPACTED, THE TRENCH SHOULD BE DEEP ENOUGH TO BURY THE ROLL 2/3 OF ITS THICKNESS BECAUSE THE GROUND WILL SETTLE.
4. IT IS CRITICAL THAT ROLLS ARE INSTALLED PERPENDICULAR TO WATER MOVEMENT, PARALLEL TO THE SLOPE CONTOUR.
5. START BUILDING TRENCHES AND INSTALL ROLLS FROM THE BOTTOM OF THE SLOPE AND WORK UP.
6. CONSTRUCT TRENCHES AT CONTOUR INTERVALS OF 3-12 FEET APART DEPENDING ON STEEPNESS OF SLOPE. THE STEEPER THE SLOPE, THE CLOSER TOGETHER THE TRENCHES. 1:1=10' 2:1=20' 3:1=30' 4:1=40'
7. LAY THE ROLL ALONG THE TRENCHES FITTING IT SNUGLY AGAINST THE SOIL. MAKE SURE NO GAPS EXIST BETWEEN THE SOIL AND THE STRAW WATTLE.
8. USE A STRAIGHT BAR TO DRIVE HOLES THROUGH THE WATTLE AND INTO THE SOIL FOR THE WILLOW OR WOODEN STAKES.
9. DRIVE THE STAKE THROUGH PREPARED HOLE INTO SOIL. LEAVE ONLY 1 OR 2 INCHES OF STAKE EXPOSED ABOVE ROLL.
10. IF USING WILLOW STAKES REFER TO LIVE STAKING BEST MANAGEMENT PRACTICES.
11. INSTALL STAKES AT LEAST EVERY 4 FEET APART THROUGH THE WATTLE. ADDITIONAL STAKES MAY BE DRIVEN ON THE DOWNSLOPE SIDE OF THE TRENCHES ON HIGHLY EROSIVE OR VERY STEEP SLOPES.
12. INSPECT THE STRAW ROLLS AND THE SLOPES AFTER SIGNIFICANT STORMS. MAKE SURE THE ROLLS ARE IN CONTACT WITH THE SOIL.
13. REPAIR ANY RILLS OR GULLYS PROMPTLY.
14. RESEED OR REPLANT VEGETATION IF NECESSARY UNTIL THE SLOPE IS STABILIZED.



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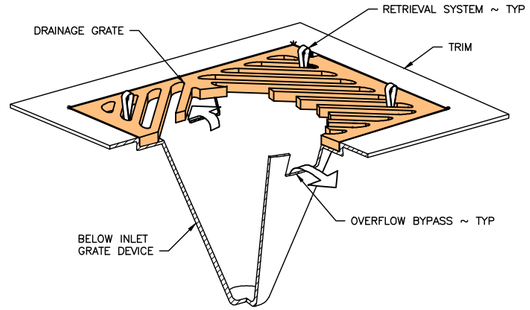
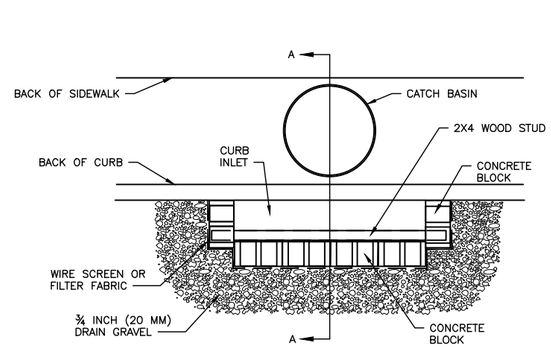


ISOMETRIC

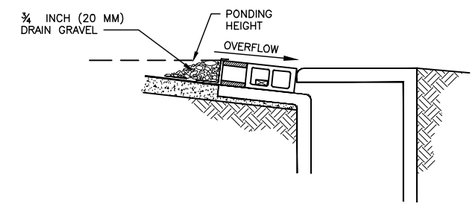
CATCH BASIN SEDIMENT INSERT
NOT TO SCALE — G4-7

NOTES:

1. SIZE THE BELOW INLET GRATE DEVICE (BIGD) FOR THE STORM WATER STRUCTURE IT WILL SERVICE.
2. THE BIDG SHALL HAVE A BUILT-IN HIGH FLOW RELIEF SYSTEM (OVERFLOW BYPASS).
3. THE RETRIEVAL SYSTEM MUST ALLOW REMOVAL OF THE BIGD WITHOUT SPILLING THE COLLECTED MATERIAL
4. PERFORM MAINTENANCE IN ACCORDANCE WITH STANDARD WSDOT SPECIFICATION 8-01.3(15).



PLAN VIEW



SECTION A-A

BLOCK AND GRAVEL CURB INLET PROTECTION
NOT TO SCALE — G5-7

NOTES:

1. USE BLOCK AND GRAVEL TYPE SEDIMENT BARRIER WHEN CURB INLET IS LOCATED IN GENTLY SLOPING STREET SEGMENT, WHERE WATER CAN POND AND ALLOW SEDIMENT TO SEPARATE FROM RUNOFF.
2. BARRIER SHALL ALLOW FOR OVERFLOW FROM SEVERE STORM EVENT.
3. INSPECT BARRIERS AND REMOVE SEDIMENT AFTER EACH STORM EVENT. SEDIMENT AND GRAVEL MUST BE REMOVED FROM THE TRAVELED WAY IMMEDIATELY.

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HOODSPORT HATCHERY

REARING POND REPLACEMENT

EROSION CONTROL DETAILS

SHEET NUMBER G0.7

PROJECT NO. MN:H23:16-1

SHEET 7 OF

PIPING LEGEND

EXISTING		PROPOSED	
	FRESH WATER SUPPLY		FRESH WATER SUPPLY
	HATCHERY DRAIN	FWP	PRESSURIZED FRESH WATER
	SALT WATER SUPPLY		HATCHERY DRAIN
	RE–USE		SALT WATER SUPPLY
CWW	CLEANING WASTEWATER	CWW	CLEANING WASTEWATER
CWE	CLEANING WASTEWATER EFFLUENT		RE–USE
		AV	AIR VALVE

AERATION TOWER
PACKED COLUMN ON SALT WATER SUPPLY (TYP 4)
OVERFLOW
SALTWATER PUMP HOUSE
(2) 20 HP PUMPS, 1200 GPM(EA)
SALT WATER INTAKE LIMITED TO 800 GPM
8.8 CFS (3,950 GPM) WATER RIGHT
(INTAKE CAPACITY APPROX 800 GPM)
20"CI
24"CI
FROM SALT WATER INTAKE
TO BAY
OVERFLOW
12"STL
18"STL
12"STL
SPAWNING AREA
1,350 GPM PER POND (TYP)
1,700 GPM PER POND (MAX)
3,600 GPM DESIGN FLOW
24"CONC
RE–USE PUMP SUMP
(3)10 HP PUMPS, 1200 GPM(EA)
AV
BOOSTER PUMP
CWW
CWE
FWP
4"DI
8"DI
12"STL
12"DI
RACEWAYS 1–8
VOL(EA) = 3,600 CF (27,000 GAL)
435 GPM (ALL RACEWAYS RUNNING)
700 GPM (MAX SINGLE RACEWAY)
POLLUTION ABATEMENT PONDS
ADULT HOLDING PONDS
15A 12,300 CF
15B 12,300 CF
15C 11,275 CF
HATCHERY BUILDING
8"STL
RACEWAYS 9–18
VOL(EA) = 3,600 CF (27,000 GAL)
435 GPM (ALL RACEWAYS RUNNING)
700 GPM (MAX SINGLE RACEWAY)
6"STL
6"STL
REARING POND 14
VOL = 12,100 CF
1,800 GPM (TYP)
2,200 GPM (MAX)
2"FWP
24"CMP
24"STL
8"DI
4"DI
1,200 GPM DESIGN FLOW
18" CONC
950 GPM DESIGN FLOW
INCUBATION PUMP
8" AT POND 18
6" AT ALL OTHER PONDS
12"STL
7,810 GPM (17.4 CFS) DESIGN FLOW
24"PVC
24"PVC
24"CONC
48" CONC. BOX
FROM FINCH CREEK INTAKE
30"STL
17.4 CFS WATER RIGHT (7,810 GPM)
BLOWOFF
REPLACE VALVE
18"STL
24"STL
OVERFLOW
ABANDON EXISTING DRAIN OUTFALL
FISH LADDER
FINCH CREEK
FINCH CREEK

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HATCHERY FLOW SCHEMATIC

SHEET NUMBER G0.8
PROJECT NO. MN:H23:16–1
SHEET 8 OF

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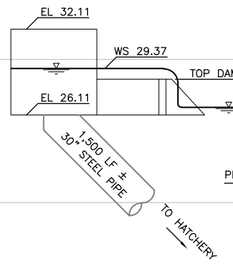
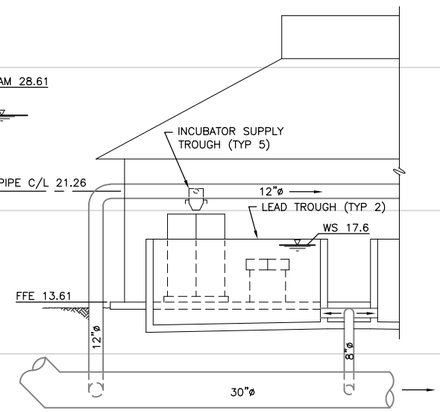
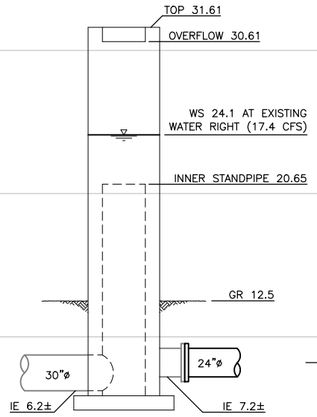
FINCH CREEK INTAKE



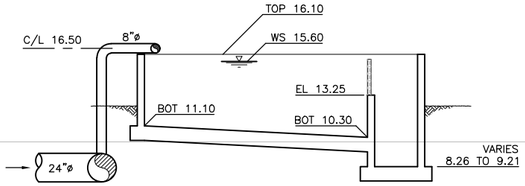
HATCHERY BUILDING



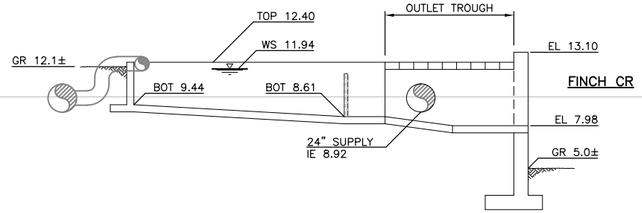
FINCH CREEK TOWER



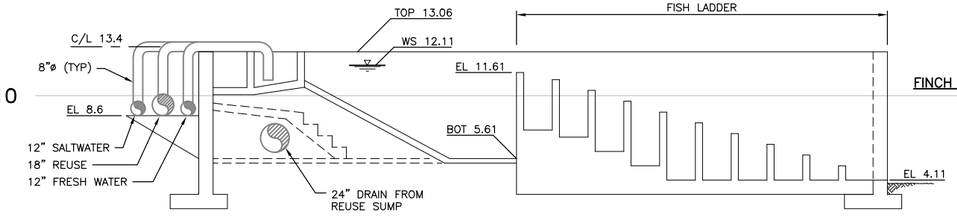
NEW RACEWAYS



POND 14

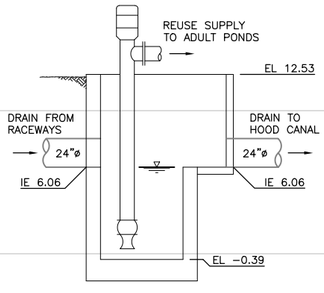


ADULT PONDS

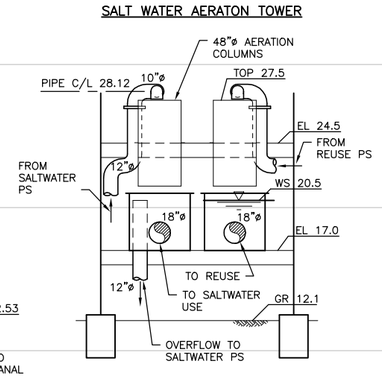


FINCH CR

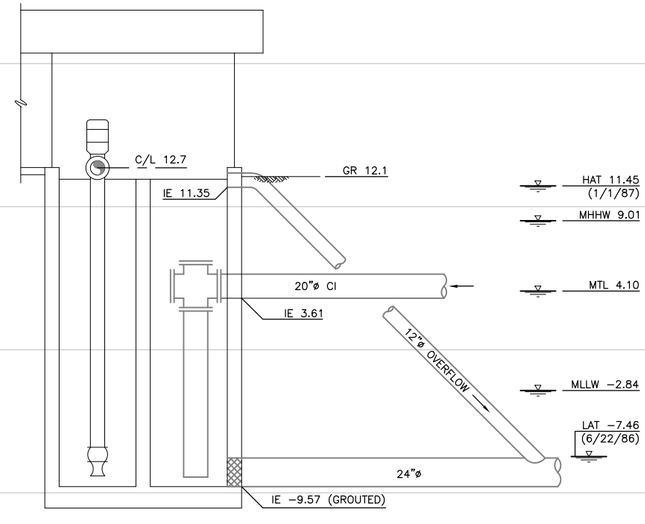
REUSE PUMP SUMP



SALT WATER AERATON TOWER



SALTWATER PUMP HOUSE



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SYM	DATE	REVISION DESCRIPTION	BY

APPROVED AND RELEASED FOR CONSTRUCTION

CHIEF ENGINEER ..... DATE: .....

PROGRAM ..... DATE: .....

NOT FOR CONSTRUCTION

0 —— 1"
BAR MEASURES ONE INCH ON ORIGINAL DRAWINGS

DESIGNED BY EGN
CHECKED BY DJN
DRAWN BY EGN
DATE MAY 2017

HOODSPORT HATCHERY
REARING POND REPLACEMENT
HATCHERY HYDRAULIC PROFILE

SHEET NUMBER G0.9

PROJECT NO. MN:H23:16−1

SHEET 9 OF

THRUST BLOCK NOTES:

BEARING AREA OF CONCRETE THRUST BLOCK BASED ON 200 PSI PRESSURE AND SAFE SOIL BEARING LOAD OF 2,000 PONDS PER SQUARE FOOT.

AREAS MUST BE ADJUSTED FOR OTHER PIPE SIZE, PRESSURES AND SOIL CONDITIONS.

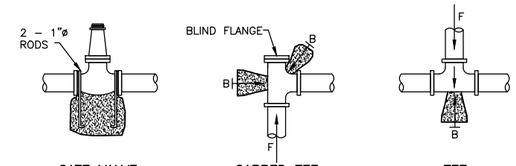
CONCRETE BLOCKING SHALL BE CAST IN PLACE AND HAVE A MINIMUM OF 1/4 SQUARE FOOT BEARING AGAINST THE FITTING.

BLOCK SHALL BEAR AGAINST FITTINGS ONLY AND SHALL BE CLEAR OF JOINTS TO PERMIT TAKING UP OR DISMANTLING OF JOINT.

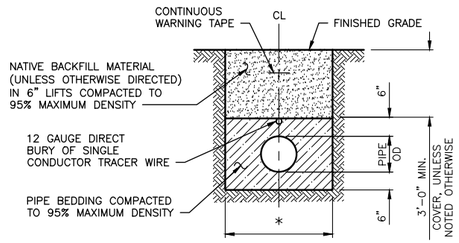
CONTRACTOR SHALL INSTALL ADEQUATE BLOCKING TO WITHSTAND FULL TEST PRESSURE AS WELL AS TO CONTINUOUSLY WITHSTAND AND OPERATION PRESSURE UNDER ALL CONDITIONS OF SERVICE.

THRUST BLOCK – TABLE
MI. BEARING AREA AGAINST UNDISTURBED SOIL
SQUARE FEET

PIPE SIZE	A (ft.)²	B (ft.)²	C (ft.)²	D (ft.)²	E (ft.)²	X (ft.)²
4"	3	1	1	1	1	NONE
6"	4	4	2	1	1	NONE
8"	7	6	4	2	1	4
10"	11	10	6	3	2	6
12"	16	14	9	5	3	9
14"	22	19	12	6	3	12
16"	29	25	16	8	4	16
18"	36	31	20	10	5	20
20"	45	39	24	13	6	24
22"	54	47	29	15	8	29
24"	64	56	35	18	9	35
28"	87	76	48	24	12	48
30"	101	87	55	28	14	55
36"	145	125	78	40	20	78
42"	197	171	107	55	27	107
48"	257	223	140	71	36	140

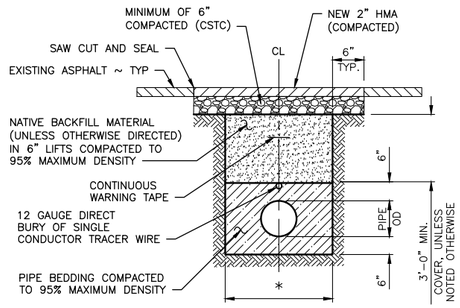


THRUST BLOCKS C1–10
NOT TO SCALE



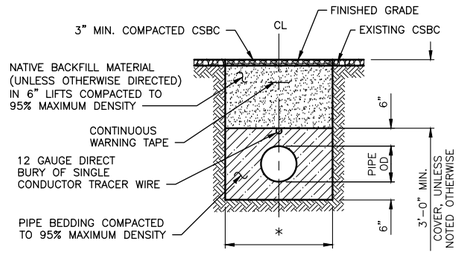
TYPICAL PIPE TRENCH C2–10
NOT TO SCALE

* TRENCH WIDTH DIMENSIONS FOR PIPES LESS THAN 18 INCHES ARE OUTSIDE DIAMETER (OD) PLUS 12" AND FOR PIPES GREATER THAN OR EQUAL TO 18 INCHES ARE OUTSIDE DIAMETER (OD) PLUS 24"



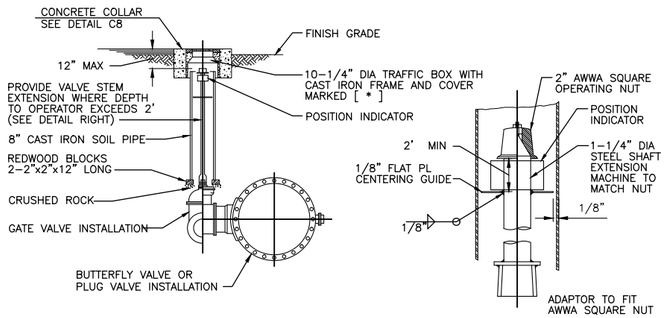
PIPE TRENCH UNDER EXISTING PAVEMENT (HMA) C3–10
NOT TO SCALE

* TRENCH WIDTH DIMENSIONS FOR PIPES LESS THAN 18 INCHES ARE OUTSIDE DIAMETER (OD) PLUS 12" AND FOR PIPES GREATER THAN OR EQUAL TO 18 INCHES ARE OUTSIDE DIAMETER (OD) PLUS 24"



PIPE TRENCH UNDER EXISTING GRAVEL AREAS C4–10
NOT TO SCALE

* TRENCH WIDTH DIMENSIONS FOR PIPES LESS THAN 18 INCHES ARE OUTSIDE DIAMETER (OD) PLUS 12" AND FOR PIPES GREATER THAN OR EQUAL TO 18 INCHES ARE OUTSIDE DIAMETER (OD) PLUS 24"

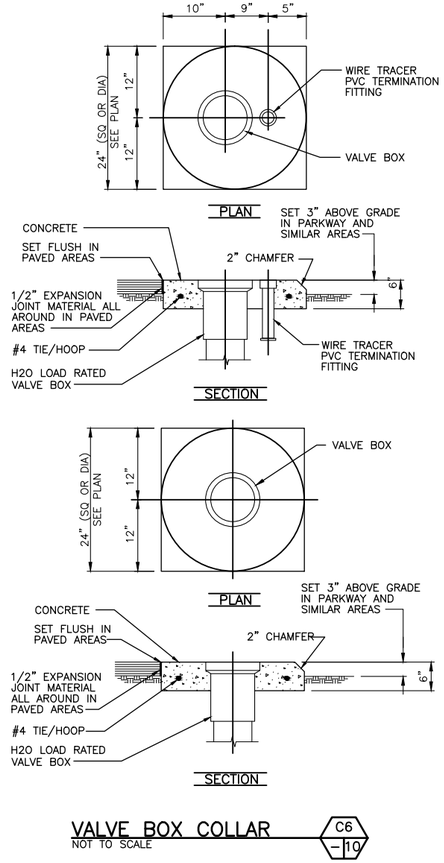


BURIED VALVE INSTALLATION C5–10
NOT TO SCALE

BURIED VALVE NOTES:

PROVIDE PROTECTIVE COATING TO EXTERIOR SURFACE OF VALVE BODY IN ACCORDANCE WITH SPECS.

FOR LUBRICATED PLUG VALVE, EXTEND LUBRICATION LINE TO GRADE PER MANUFACTURES INSTRUCTIONS.

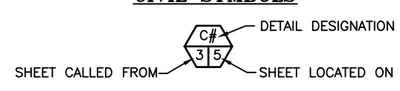


VALVE BOX COLLAR C6–10
NOT TO SCALE

ABBREVIATIONS

ALUM	–	ALUMINUM
L	–	ANGLE
BM	–	BENCH MARK
BOS	–	BOTTOM OF SLAB
CL	–	CENTERLINE
CLR	–	CLEARANCE
CONC	–	CONCRETE
CSBC	–	CRUSHED SURFACE BASE COURSE
CSTC	–	CRUSHED SURFACE TOP COURSE
DIA	–	DIAMETER
ELEV	–	ELEVATION
GALV	–	GALVANIZED
IE	–	INVERT ELEVATION
MISC	–	MISCELLANEOUS
OC	–	ON CENTER
OD	–	OUTSIDE DIAMETER
REQ'D	–	REQUIRED
SEC	–	SECTION
SPEC'S	–	PROJECT SPECIFICATIONS
SS	–	STAINLESS STEEL
TOS	–	TOP OF SLAB
TOW	–	TOP OF WALL
TYP	–	TYPICAL
WS	–	WATER SURFACE

CIVIL SYMBOLS



STANDARD CIVIL DETAIL

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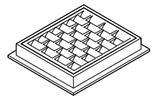
NOT FOR CONSTRUCTION

0 —— 1"
BAR MEASURES ONE INCH ON ORIGINAL DRAWINGS

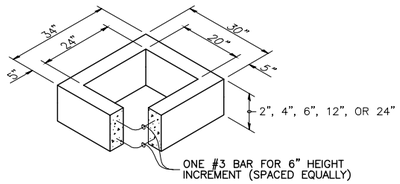
DESIGNED BY
CHECKED BY
DRAWN BY
DATE MAY 2017

HOODSPORT HATCHERY
REARING POND REPLACEMENT
CIVIL GENERAL NOTES, ABBREVIATIONS & DETAILS

SHEET NUMBER C0.1
PROJECT NO. MN:H23:16–1
SHEET 10 OF



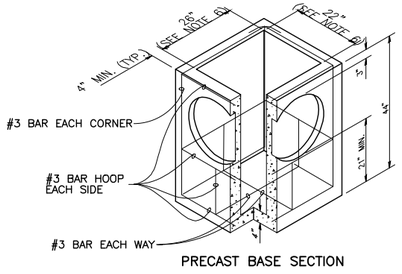
FRAME AND VANED GRATE



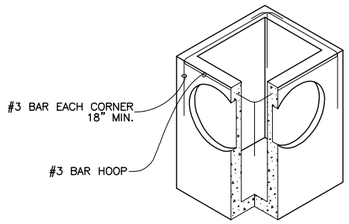
RECTANGULAR ADJUSTMENT SECTION

PIPE ALLOWANCES	
PIPE MATERIAL	MAXIMUM INSIDE DIAMETER
REINFORCED OR PLAIN CONCRETE	12"
ALL METAL PIPE	15"
CPSSP (STD.* SPEC. 9-05.20)	12"
SOLID WALL PVC (STD. SPEC. 9-05.12(1))	15"
PROFILE WALL PVC (STD. SPEC. 9-05.12(2))	15"

*CORRUGATED POLYETHYLENE STORM SEWER PIPE



PRECAST BASE SECTION



(SEE NOTE 1)
ALTERNATIVE PRECAST BASE SECTION

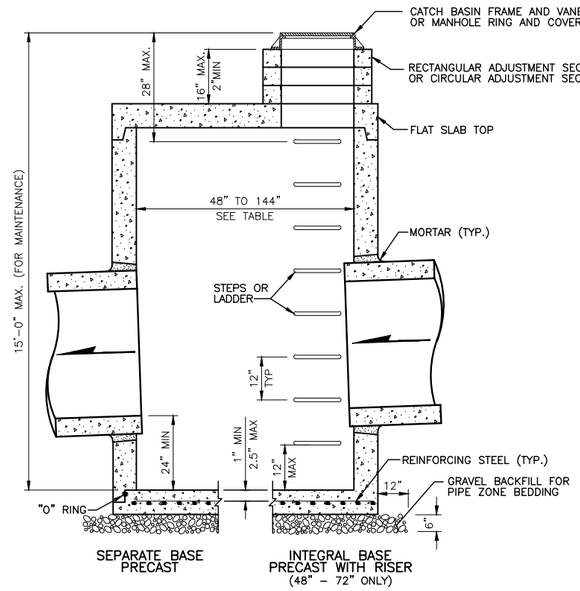
WSDOT STANDARD CATCH BASIN TYPE 1 DETAIL

NOT TO SCALE

C7 -11

NOTES:

1. AS ACCEPTABLE ALTERNATIVES TO THE REBAR SHOWN IN THE PRECAST BASE SECTION, FIBERS (PLACED ACCORDING TO THE STANDARD SPECIFICATIONS), OR WIRE MESH HAVING A MINIMUM AREA OF 0.12 SQUARE INCHES PER FOOT SHALL BE USED WITH THE MINIMUM REQUIRED REBAR SHOWN IN THE ALTERNATIVE PRECAST BASE SECTION. WIRE MESH SHALL NOT BE PLACED IN THE KNOCKOUTS.
2. THE KNOCKOUT DIAMETER SHALL NOT BE GREATER THAN 20". KNOCKOUTS SHALL HAVE A WALL THICKNESS OF 2" MINIMUM TO 2.5" MAXIMUM. PROVIDE A 1.5" MINIMUM GAP BETWEEN THE KNOCKOUT WALL AND THE OUTSIDE OF THE PIPE. AFTER THE PIPE IS INSTALLED, FILL THE GAP WITH JOINT MORTAR IN ACCORDANCE WITH STANDARD SPECIFICATION 9-04.3.
3. THE MAXIMUM DEPTH FROM THE FINISHED GRADE TO THE LOWEST PIPE INVERT SHALL BE 5'.
4. THE FRAME AND GRATE MAY BE INSTALLED WITH THE FLANGE DOWN, OR INTEGRALLY CAST INTO THE ADJUSTMENT SECTION WITH FLANGE UP.
5. THE PRECAST BASE SECTION MAY HAVE A ROUNDED FLOOR, AND THE WALLS MAY BE SLOPED AT A RATE OF 1:24 OR STEEPER.
6. THE OPENING SHALL BE MEASURED AT THE TOP OF THE PRECAST BASE SECTION.
7. ALL PICKUP HOLES SHALL BE GROUTED FULL AFTER THE BASIN HAS BEEN PLACED.



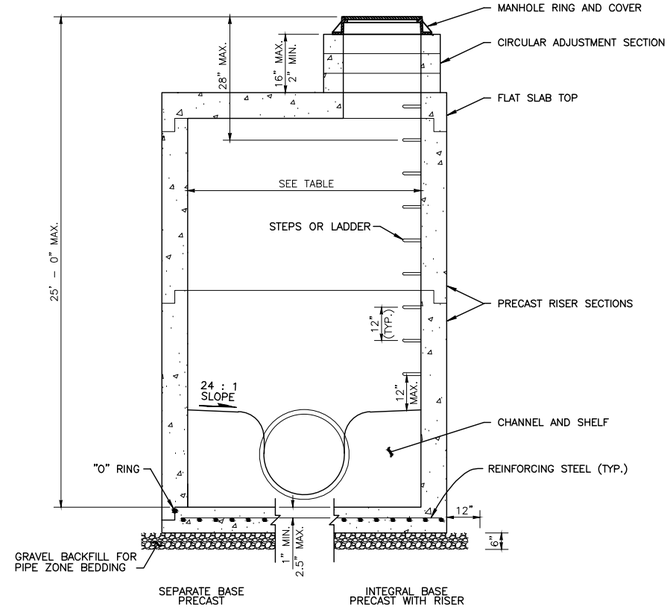
WSDOT STANDARD CATCH BASIN TYPE 2 DETAIL

NOT TO SCALE

C8 -11

NOTES:

1. NO STEPS ARE REQUIRED WHEN HEIGHT IS 4' OR LESS.
2. THE BOTTOM OF THE PRECAST CATCH BASIN MAY BE SLOPED TO FACILITATE CLEANING.
3. THE RECTANGULAR FRAME AND GRATE MAY BE INSTALLED WITH THE FLANGE UP OR DOWN. THE FRAME MAY BE CAST INTO THE ADJUSTMENT SECTION.
4. KNOCKOUTS SHALL HAVE A WALL THICKNESS OF 2" MINIMUM TO 2.5" MAXIMUM. PROVIDE A 1.5" MINIMUM GAP BETWEEN THE KNOCKOUT WALL AND THE OUTSIDE OF THE PIPE. AFTER THE PIPE IS INSTALLED, FILL THE GAP WITH JOINT MORTAR IN ACCORDANCE WITH STANDARD SPECIFICATION 9-04.3.



WSDOT STANDARD MANHOLE TYPE 3 DETAIL

NOT TO SCALE

C9 -11

NOTE:

1. KNOCKOUTS SHALL HAVE A WALL THICKNESS OF 2" MINIMUM TO 2.5" MAXIMUM.
2. FOR PIPE ALLOWANCES, SEE STANDARD PLAN B-10.20.
3. NO STEPS ARE REQUIRED WHEN HEIGHT IS 4' OR LESS.

CATCH BASIN/MANHOLE DIMENSION TABLE				
DIA.	MIN. WALL THICKNESS	MIN. BASE THICKNESS	MAXIMUM KNOCKOUT SIZE	MINIMUM DISTANCE BETWEEN KNOCKOUTS
48"	4"	6"	36"	8"
54"	4.5"	8"	42"	8"
60"	5"	8"	48"	8"
72"	6"	8"	60"	12"
84"	8"	12"	72"	12"
96"	8"	12"	84"	12"
120"	10"	12"	42"	12"
144"	12"	12"	108"	12"

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NOT FOR CONSTRUCTION

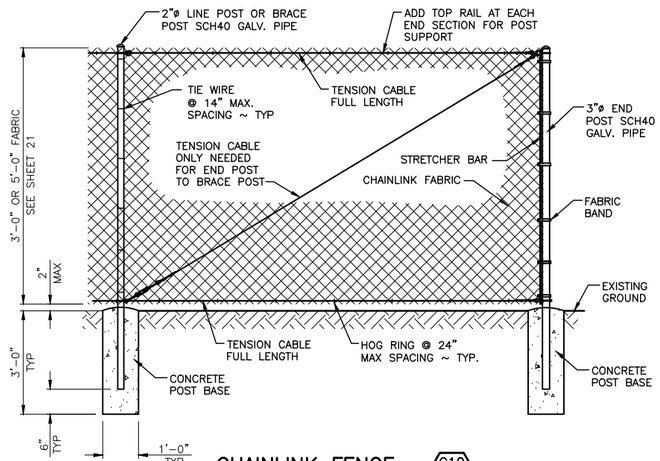
0 — 1"
BAR MEASURES ONE INCH ON ORIGINAL DRAWINGS

DESIGNED BY
CHECKED BY
DRAWN BY
DATE MAY 2017

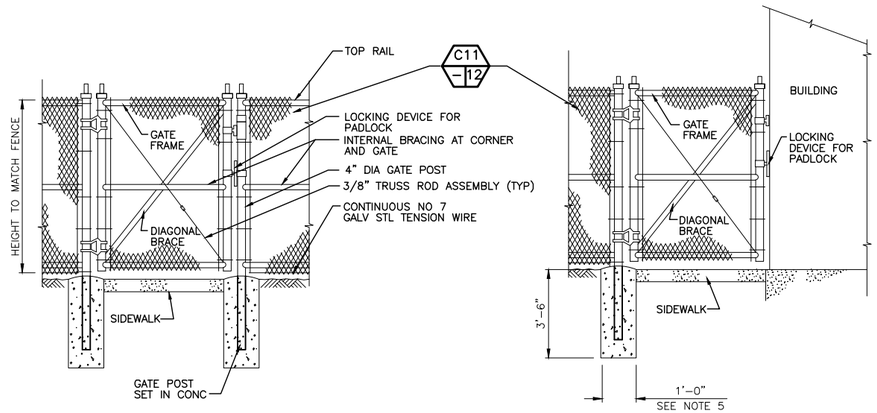
HOODSPORT HATCHERY
REARING POND REPLACEMENT
TYPICAL CIVIL DETAILS

SHEET NUMBER C0.2
PROJECT NO. MN:H23:16-1
SHEET 11 OF

5/3/2017 4:27:29 PM – P:\15891\200-15891-17001\CAD\SHEETFILES\H023161C011.DWG – BENNETTDAGGETT, HUNTER



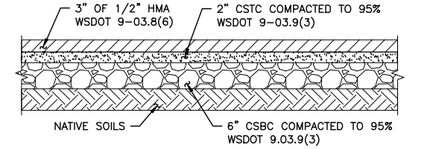
CHAINLINK FENCE
NOT TO SCALE — C10-12



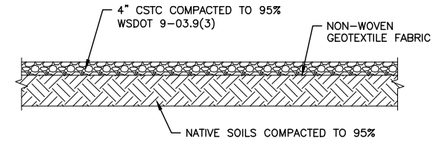
SINGLE LEAF GATE
NOT TO SCALE — C12-12

NOTES:

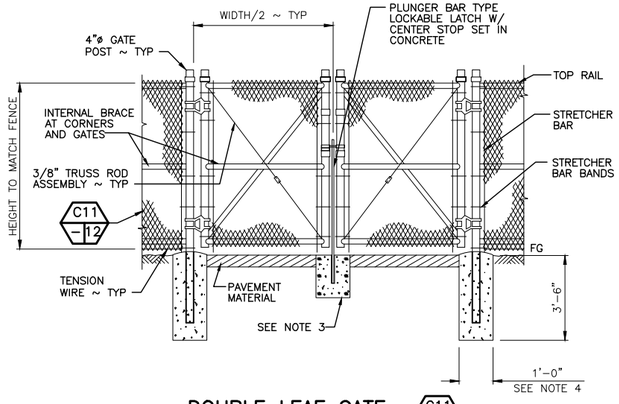
1. SEE SPECS FOR FENCE MATERIAL, COATINGS, AND INSTALLATION REQUIREMENTS.
2. GATE TO BE INSTALLED WITH KEEPER TO SECURE IN OPEN POSITION.
3. GATES LESS THAN 8'-0" IN WIDTH SHALL BE SINGLE LEAF.
4. SEE SPECIFICATIONS FOR CLEARANCES IN SNOW REGIONS.
5. DESIGNED BY AN ENGINEER. OTHERS SHALL BE 12" OR 5 X POST DIAMETER, WHICHEVER IS GREATER



TYPICAL ASPHALT DETAIL
NOT TO SCALE — C14-12



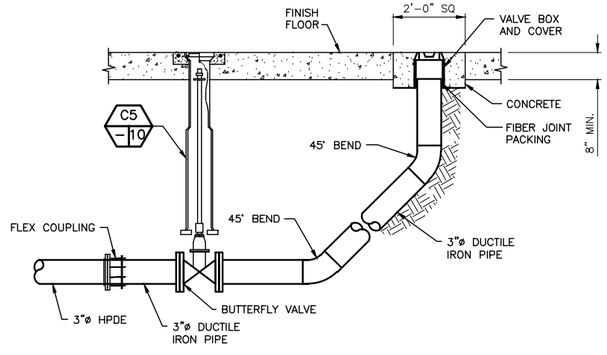
GRAVEL DETAIL
NOT TO SCALE — C15-12



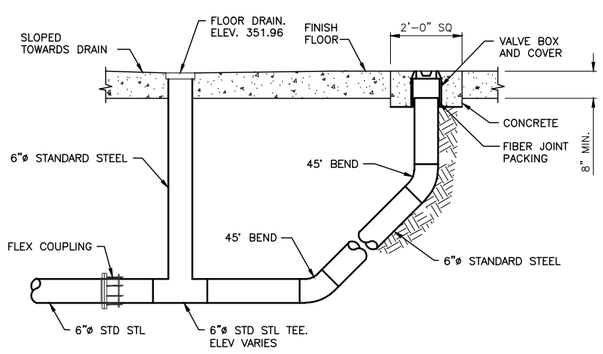
DOUBLE LEAF GATE
NOT TO SCALE — C11-12

NOTES:

1. SEE SPECIFICATIONS FOR FENCE MATERIAL, COATINGS, AND INSTALLATION REQUIREMENTS.
2. SEE SPECIFICATIONS FOR CLEARANCES IN SNOW REGIONS.
3. 12" DIAMETER X 18" DEEP CONCRETE STOP W/ 20 GA STEEL PLUNGER SLEEVE, DIA = ROD OD +1/2".
4. DESIGNED BY AN ENGINEER. OTHERS SHALL BE 12" OR 5 X POST DIAMETER, WHICHEVER IS GREATER



SANITARY DRAIN LINE CLEANOUT
NOT TO SCALE — C13-12



CLEANOUT
NOT TO SCALE — C16-12

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BAR MEASURES ONE INCH ON ORIGINAL DRAWINGS

DESIGNED BY
CHECKED BY
DRAWN BY
DATE MAY 2017

HOODSPORT HATCHERY
REARING POND REPLACEMENT
TYPICAL CIVIL DETAILS

SHEET NUMBER C0.3
PROJECT NO. MN:H23:16-1
SHEET 12 OF

CLOSE VALVE & ABANDON 12" SUPPLY IN PLACE

CUT, PLUG & ABANDON 12" SUPPLY IN PLACE

RELOCATE ELECTRICAL PANEL

REMOVE & RE-INSTALL BIRD NETTING SUPPORTS AS REQ'D FOR RACEWAY CONSTRUCTION

REMOVE 12" SUPPLY

A 14 15

REMOVE CONC DRAIN BOX

CUT, PLUG & ABANDON 24" DRAIN IN PLACE

B 14 15

REMOVE CONC DRAIN BOX

24" DRAIN TO REMAIN

CUT, PLUG & ABANDON 12" SUPPLY IN PLACE

EXISTING RACEWAY BOTTOM SLAB TO REMAIN. REMOVE INTERIOR AND END WALLS. SEE SECTIONS ON SHEET 15.

REMOVE 18" SUPPLY

REMOVE 24" SUPPLY

REMOVE 12" SUPPLY PIPES

DEMO SALT WATER FLUME PER SHEET 15

MAINT. BUILDING

WHARF STREET

REMOVE CONC DRAIN BOX

CUT, PLUG & ABANDON 24" DRAIN IN PLACE

REMOVE 6" SUPPLY PIPES

RELOCATE ELECTRICAL RECEPTACLE

REMOVE SALTWATER PIPING, RE-USE PIPING, CONC WALLS & RAMPS

REMOVE 12" SUPPLY TO SALTWATER SUMP

REMOVE & RELOCATE DIESEL TANK AND BOLLARDS. SEE SITE PLAN FOR REVISED LOCATION.

REMOVE 12" SALTWATER

B-3

N

0 4 8 15 30
2 6 10 20
SCALE: 1" = 10'

DEMOLITION PLAN
SCALE: 1" = 10'

5/2/2017 9:04:54 PM - P:\15891\200-15891-17001\CAD\SHEETFILES\H02316\C0114.DWG - NORDHOLM, ERIK

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WASHINGTON STATE
DEPARTMENT OF FISH AND WILDLIFE

SYM	DATE	REVISION DESCRIPTION	BY

APPROVED AND RELEASED FOR CONSTRUCTION

CHIEF ENGINEER ..... DATE: .....

PROGRAM ..... DATE: .....

NOT FOR CONSTRUCTION

0 —— 1"
BAR MEASURES ONE INCH ON ORIGINAL DRAWINGS

DESIGNED BY
CHECKED BY
DRAWN BY EGN
DATE MAY 2017

HOODSPORT HATCHERY

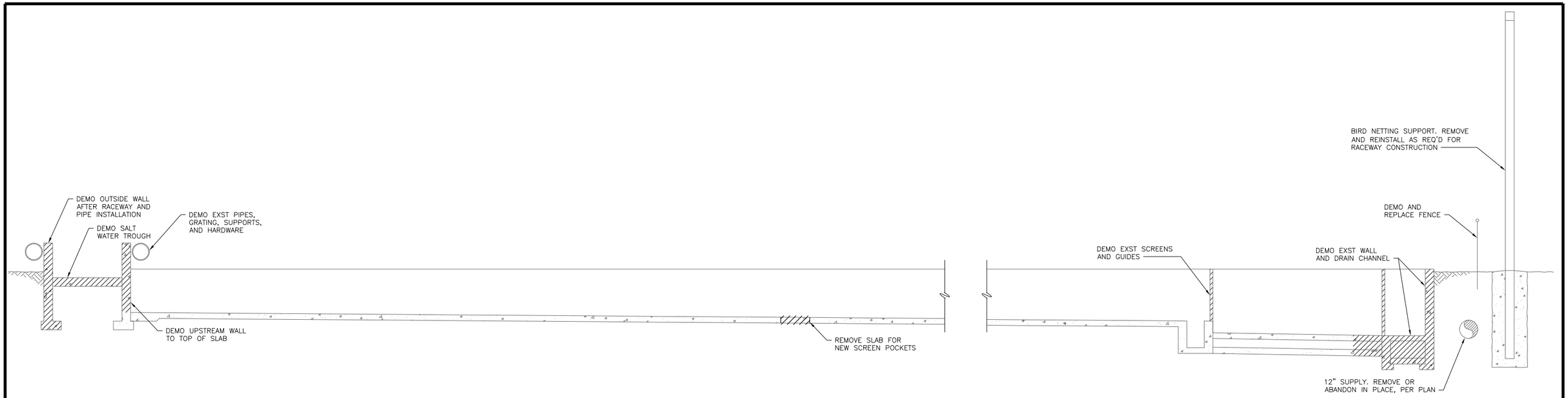
REARING POND REPLACEMENT

DEMOLITION PLAN

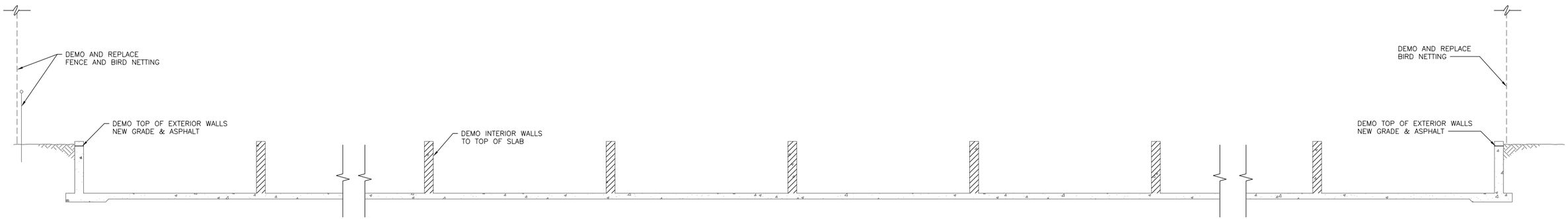
SHEET NUMBER C1.1

PROJECT NO. MN:H23:16-1

SHEET 14 OF



SECTION (A 14|15)
SCALE: 3/8" = 1'-0"



SECTION (B 14|15)
SCALE: 3/8" = 1'-0"

0 2'-8" 5'-4"
1'-4" 4'-0" 8'-0"
SCALE: 3/8" = 1'-0"

SHEET NUMBER C1.2

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DATE MAY 2017

HOODSPORT HATCHERY
REARING POND REPLACEMENT
DEMOLITION SECTIONS AND DETAILS

PROJECT NO. MN:H23:16-1
SHEET 15
OF

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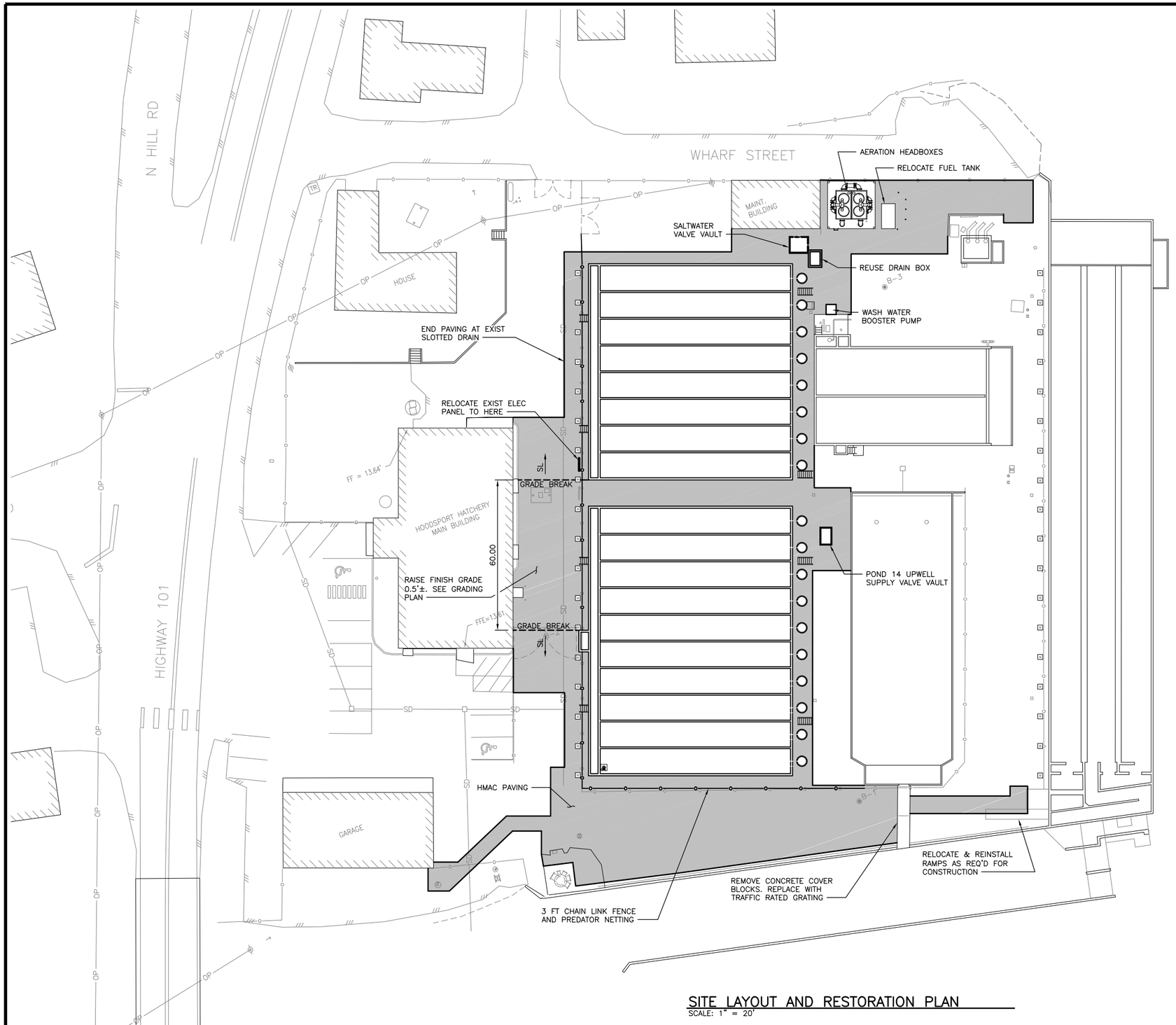
STRUCTURE LAYOUT COORDINATES			
POINT #	NORTHING	EASTING	DESCRIPTION



SITE LAYOUT AND RESTORATION PLAN
SCALE: 1" = 20'

N

0 10 20 40
5 15 30 60
SCALE: 1" = 20'

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PROGRAM ..... DATE: .....

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DRAWN BY EGN
DATE MAY 2017

HOODSPORT HATCHERY
REARING POND REPLACEMENT
SITE LAYOUT AND RESTORATION PLAN

SHEET NUMBER C1.3
PROJECT NO. MN:H23:16-1
SHEET 16 OF

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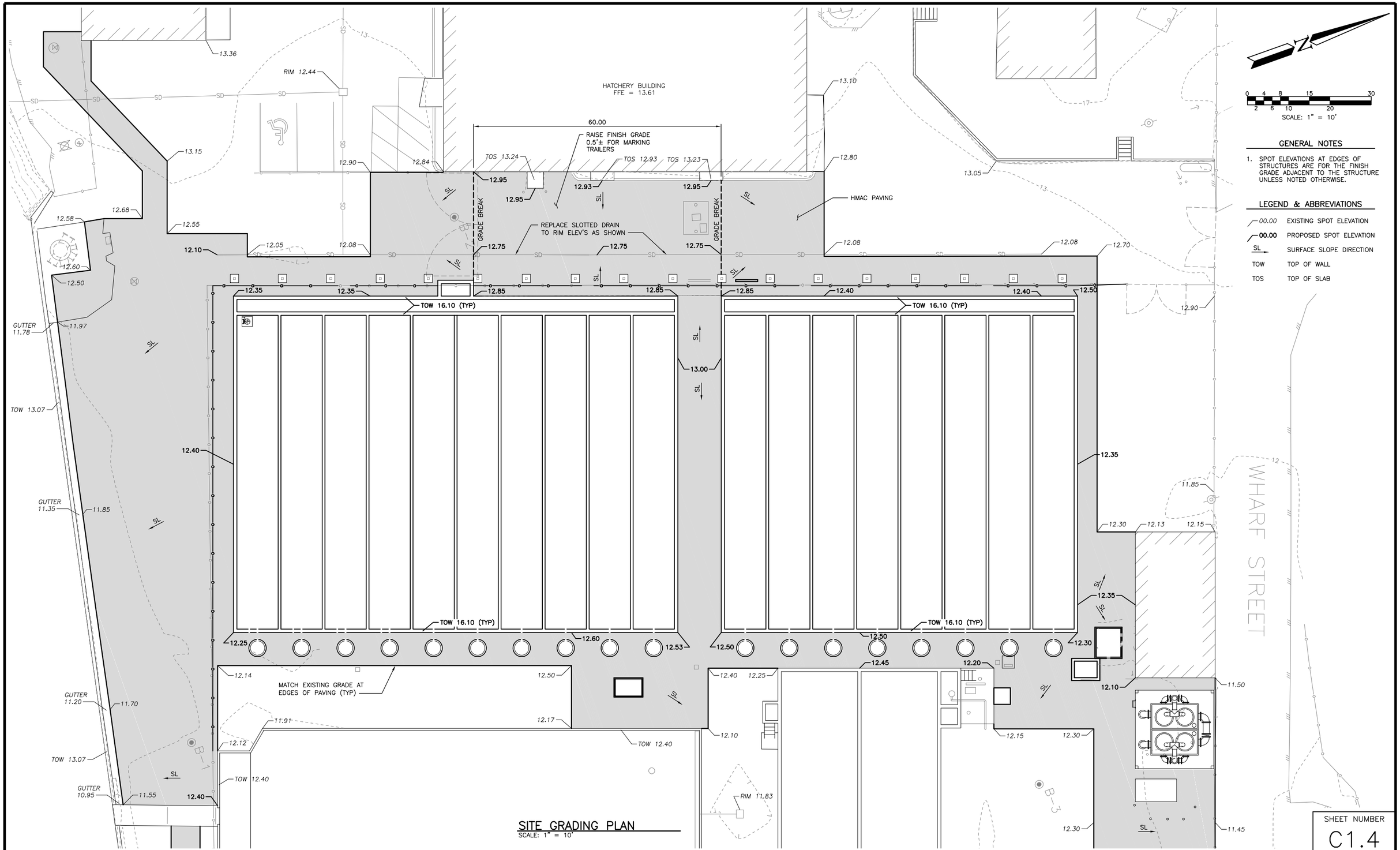

SITE GRADING PLAN
SCALE: 1" = 10'

0 4 8 15 30
2 6 10 20
SCALE: 1" = 10'

GENERAL NOTES

1. SPOT ELEVATIONS AT EDGES OF STRUCTURES ARE FOR THE FINISH GRADE ADJACENT TO THE STRUCTURE UNLESS NOTED OTHERWISE.

LEGEND & ABBREVIATIONS

00.00	EXISTING SPOT ELEVATION
00.00	PROPOSED SPOT ELEVATION
SL	SURFACE SLOPE DIRECTION
TOW	TOP OF WALL
TOS	TOP OF SLAB

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		CHIEF ENGINEER ..... DATE:	
		PROGRAM ..... DATE:	

NOT FOR CONSTRUCTION

0 —— 1"
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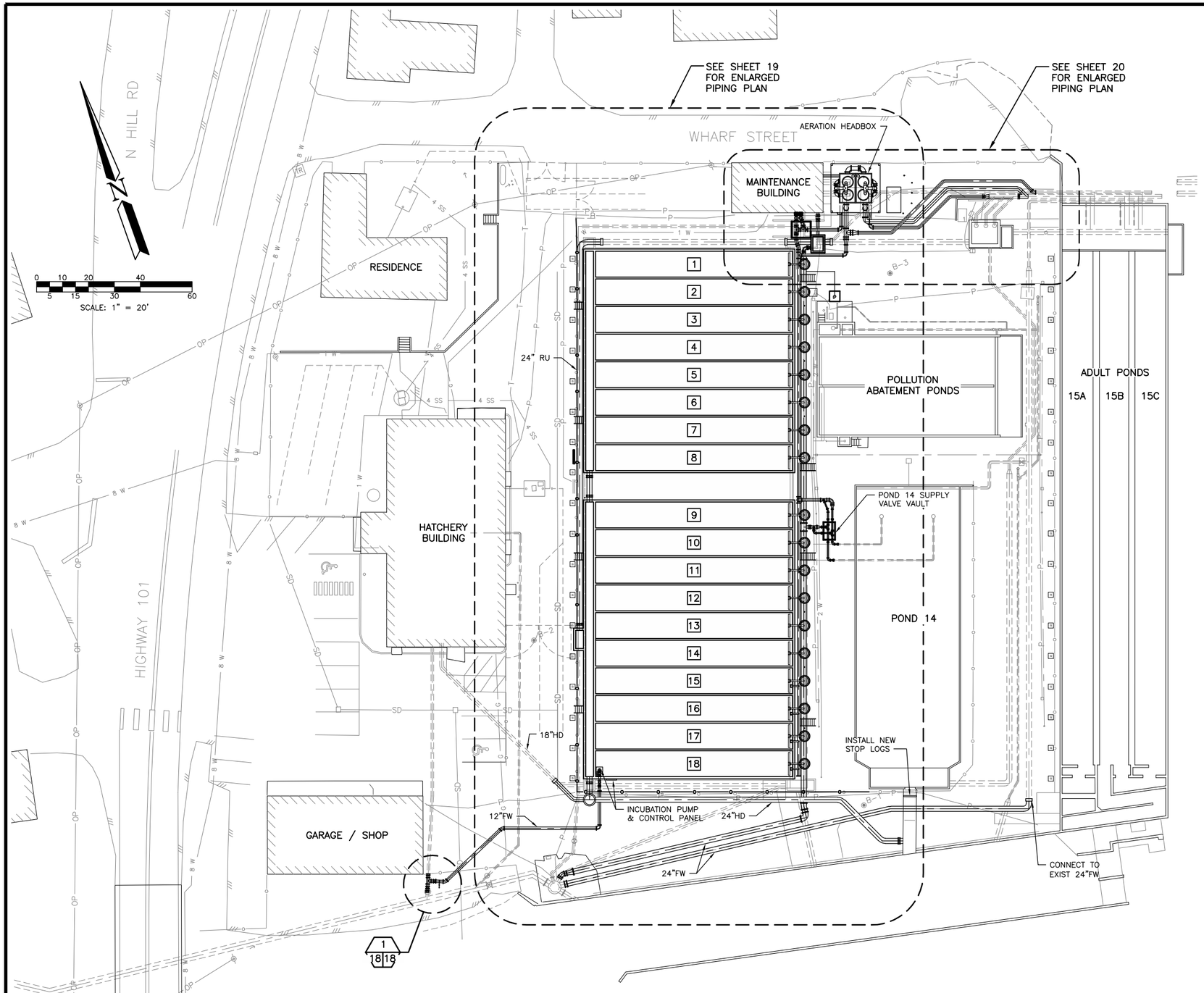
HOODSPORT HATCHERY
REARING POND REPLACEMENT
SITE GRADING PLAN

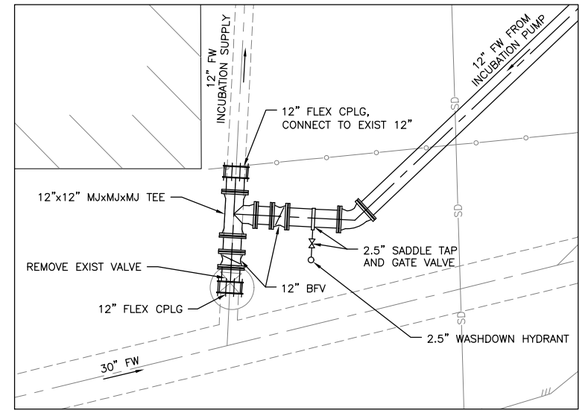
SHEET NUMBER
C1.4

PROJECT NO.
MN:H23:16-1

SHEET 17 OF



SITE PIPING & UTILITIES PLAN
SCALE: 1" = 20'



DETAIL 1 18|18
SCALE: 1/4" = 1'-0"

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DATE MAY 2017

HOODSPORT HATCHERY
REARING POND REPLACEMENT
SITE PIPING & UTILITIES PLAN

SHEET NUMBER C1.5
PROJECT NO. MN:H23:16-1
SHEET 18 OF

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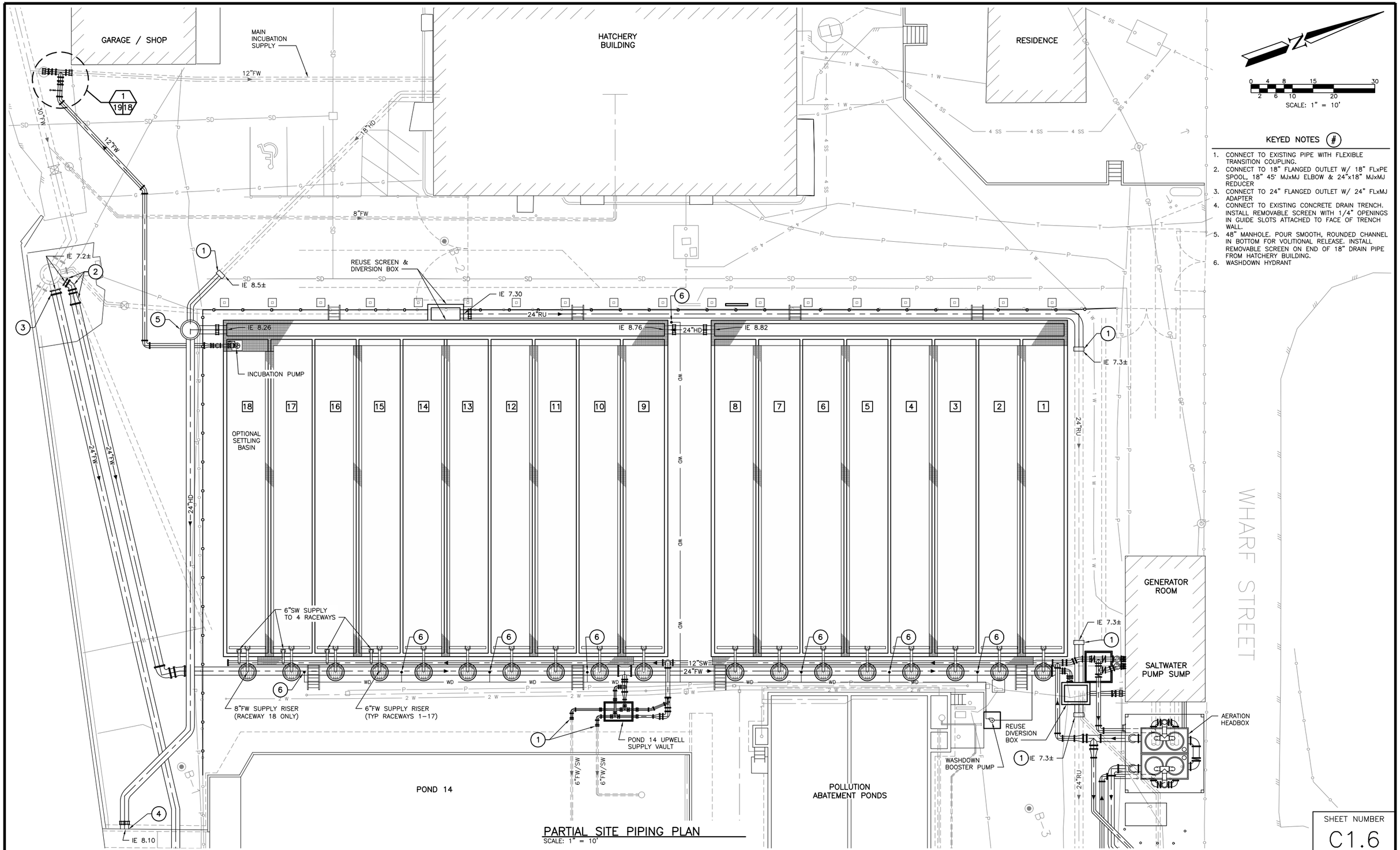

PARTIAL SITE PIPING PLAN
SCALE: 1" = 10'

0 4 8 15 30
2 6 10 20
SCALE: 1" = 10'

KEYED NOTES (#)

1. CONNECT TO EXISTING PIPE WITH FLEXIBLE TRANSITION COUPLING.
2. CONNECT TO 18" FLANGED OUTLET W/ 18" FLxPE SPOOL, 18" 45° MJxMJ ELBOW & 24"x18" MJxMJ REDUCER
3. CONNECT TO 24" FLANGED OUTLET W/ 24" FLxMJ ADAPTER
4. CONNECT TO EXISTING CONCRETE DRAIN TRENCH. INSTALL REMOVABLE SCREEN WITH 1/4" OPENINGS IN GUIDE SLOTS ATTACHED TO FACE OF TRENCH WALL.
5. 48" MANHOLE. POUR SMOOTH, ROUNDED CHANNEL IN BOTTOM FOR VOLITIONAL RELEASE. INSTALL REMOVABLE SCREEN ON END OF 18" DRAIN PIPE FROM HATCHERY BUILDING.
6. WASHDOWN HYDRANT

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HOODSPORT HATCHERY
REARING POND REPLACEMENT
PARTIAL SITE PIPING & UTILITIES PLAN

SHEET NUMBER C1.6
PROJECT NO. MN:H23:16–1
SHEET 19 OF

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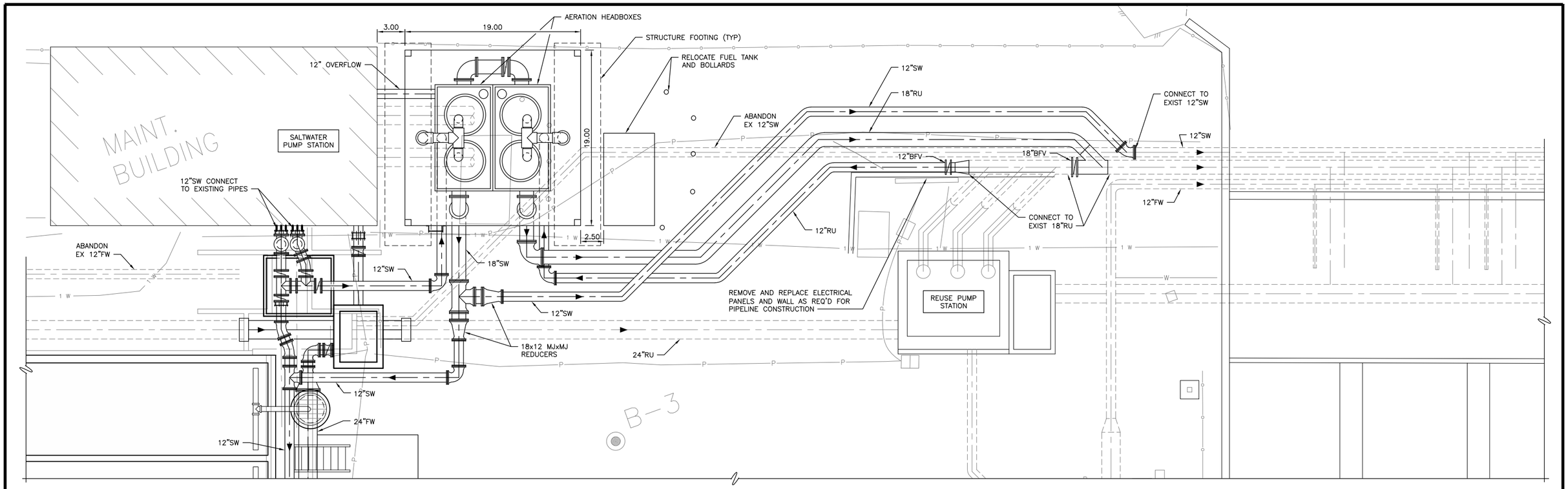

AERATION HEADBOX PIPING PLAN
SCALE: 1" = 5'

N

0 2 4 7.5 15
1 3 5 10
SCALE: 1" = 5'

SHEET NUMBER
C1.7

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PROGRAM ..... DATE: .....

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0 ——— 1"
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DATE MAY 2017

HOODSPORT HATCHERY
REARING POND REPLACEMENT
AERATION HEADBOX SITE PIPING PLAN

PROJECT NO.
MN:H23:16-1

SHEET 20 OF

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G. STRUCTURAL – GENERAL

G1 SCOPE
THE NOTES AND DETAILS ON THIS SHEET ARE GENERAL AND APPLY TO THE ENTIRE PROJECT EXCEPT WHERE THERE ARE SPECIFIC INDICATIONS TO THE CONTRARY.

G2 APPLICABLE SPECIFICATIONS AND CODES
CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE 2015 WASHINGTON STATE BUILDING CODE AND MASON COUNTY LOCAL AMENDMENTS. THE ABOVE SHALL GOVERN EXCEPT WHERE OTHER APPLICABLE CODES OR THE CONTRACT DOCUMENTS ARE MORE RESTRICTIVE.

G3 ALTERNATIVE DESIGNS
THE STRUCTURAL SYSTEMS AND DETAILS ON THESE PLANS ARE THE PRIORITY DESIGN; HOWEVER, ALTERNATIVE SYSTEMS AND DETAILS MAY BE CONSIDERED IF THE CONTRACTOR SUBMITS PLANS WITH SUBSTANTIATING CALCULATIONS AND TEST DATA WHICH BEAR A WASHINGTON STATE LICENSED ENGINEER'S SEAL AND SIGNATURE FOR APPROVAL OF THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE WHOSE EFFORTS FOR REVIEW OF SUCH ALTERNATIVE DESIGNS SHALL BE PAID FOR BY THE CONTRACTOR.

G4 DIMENSIONS
STRUCTURAL DIMENSIONS CONTROLLED BY OR RELATED TO FIELD CONDITIONS SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. DEVIATIONS FROM THAT WHICH IS SHOWN ON THE DRAWINGS SHALL BE BROUGHT TO THE ATTENTION OF THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE. WRITTEN DIMENSIONS SHALL TAKE PRECEDENCE OVER SCALES SHOWN ON THE DRAWINGS.

G5 CONSTRUCTION LOADS
STRUCTURES HAVE BEEN DESIGNED FOR OPERATIONAL LOADS ON THE COMPLETED STRUCTURE. DURING CONSTRUCTION, THE STRUCTURES SHALL BE PROTECTED BY BRACING AND SUPPORTS AS REQUIRED. THE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN AND MAINTENANCE OF TEMPORARY SUPPORTS. THE DESIGN OF THE TEMPORARY SUPPORTS SHALL BE PERFORMED BY A LICENSED ENGINEER HIRED BY THE CONTRACTOR.

F. STRUCTURAL DESIGN

F1 DESIGN CODE
DESIGN IS IN ACCORDANCE WITH THE 2015 WASHINGTON STATE BUILDING CODE AND MASON COUNTY LOCAL AMENDMENTS. THE ABOVE SHALL GOVERN EXCEPT WHERE OTHER APPLICABLE CODES OR THE CONTRACT DOCUMENTS ARE MORE RESTRICTIVE.

F2 DESIGN SOIL PRESSURE FOR FOUNDATIONS
DESIGN BASED ON GEOTECHNICAL REPORT BY LANDAU ASSOCIATES, INC. DATED JANUARY 6, 2017.
(1) ALLOWABLE BEARING PRESSURE = 3000 PSF
(2) ACTIVE PRESSURE = 81 PCF (INCLUDES HYDROSTATIC)
(3) AT REST PRESSURE = 90 PCF (INCLUDES HYDROSTATIC)
(4) SURCHARGE PRESSURE = 0.44*SURFACE SURCHARGE PRESSURE
(5) SEISMIC PRESSURE (UNIFORM) = 6H
(6) COEFFICIENT OF FRICTION = 0.34
(7) PASSIVE SOIL PRESSURE = 150 PCF

L. DESIGN LOADS

A. LIVE
(1) SLAB ON GRADE = 125 PSF
(2) STAIRS = 100 PSF / 300 LB CONCENTRATED
(3) ELEVATED PLATFORMS = 60 PSF
(4) ROOF LIVE LOAD = N/A

B. SNOW
(1) GROUND SNOW LOAD Pg = 40 PSF
(2) RISK CATEGORY II
(3) IMPORTANCE FACTOR Is = 1.0
(4) EXPOSURE FACTOR Ce = N/A
(5) THERMAL FACTOR Ct = N/A

C. WIND
(1) NOMINAL DESIGN WIND SPEED = 85 MPH
(2) ULTIMATE DESIGN WIND SPEED = 110 MPH
(3) RISK CATEGORY II
(4) IMPORTANCE FACTOR Iw = 1.0
(5) WIND EXPOSURE D
(6) INTERNAL PRESSURE COEFFICIENTS N/A

D. SEISMIC
(1) RISK CATEGORY II
(2) IMPORTANCE FACTOR Ie = 1.0
(3) SITE CLASS = D
(4) S_S = 1.442 S_1 = 0.600
(5) S_{DS} = 0.962 S_{D1} = 0.600
(6) SEISMIC DESIGN CATEGORY = D
(7) ANALYSIS PROCEDURE = EQUIVALENT LATERAL FORCE

C. CONCRETE

C1 APPLICABLE CODE
CONCRETE DESIGN AND CONSTRUCTION SHALL CONFORM TO THE 2014 EDITION OF THE ACI BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE, ACI 318.

C2 REINFORCING STEEL DETAILS
DETAILING, FABRICATION AND ERECTION OF REINFORCING STEEL, UNLESS OTHERWISE NOTED, SHALL BE IN ACCORDANCE WITH DETAILS AND DETAILING OF CONCRETE REINFORCEMENT ACI 315.

C3 DESIGN STRENGTHS
A. CAST-IN-PLACE CONCRETE
(1) GENERAL USE – f'c = 5000 psi @ 28 DAYS
B. MAX WATER TO CEMENTITIOUS MATERIAL RATIO = 0.40
C. FOR NOMINAL MAXIMUM AGGREGATE SIZE OF 3/4" OR 1", AIR CONTENT = 6%
FOR NOMINAL MAXIMUM AGGREGATE SIZE OF 1 1/2", AIR CONTENT = 5.5%
D. REINFORCING STEEL SHALL BE ASTM A 615, GRADE 60.
E. GROUT SHALL BE ASTM C 1107 WITH f'c = 7000 psi @ 28 DAYS
F. CONCRETE SHALL BE PROPORTIONED TO MEET THE AVERAGE COMPRESSIVE STRENGTH REQUIREMENTS IN ACI 318, CHAPTER 5.

C4 CONCRETE COVER
CONCRETE COVER FOR REINFORCING BARS SHALL BE AS FOLLOWS:
A. FOOTINGS AND FOUNDATION MATS CAST ON GROUND – 3"
B. FORMED OR FINISHED SURFACES – 2"

C5 DOWELS
DOWELS SHALL BE AT LEAST THE SAME SIZE AND SPACING AS BARS WITH WHICH THEY ARE LAPPED. THE LAP EMBEDMENT SHALL BE AS RECOMMENDED BY ACI 318 OR AS NOTED.

C6 BAR SPLICES
SPLICES OF REINFORCING STEEL BAR SHALL BE IN ACCORDANCE WITH SCHEDULE SHOWN ON CONCRETE DETAILS AND ACI 318 AND SHALL BE CLASS B UNLESS OTHERWISE NOTED. THE LENGTH OF LAP SPLICE OF BARS OF DIFFERENT DIAMETER SHALL BE BASED ON THE SMALLER DIAMETER. BAR SPLICES MAY ALSO BE MADE BY WELDING IN ACCORDANCE WITH AWS SPEC D 1.4 IF APPROVED BY THE ENGINEER.

C7 RESTRICTED BAR ANCHORAGE
IN CASES WHERE REINFORCING BARS CANNOT BE EXTENDED AS FAR AS REQUIRED DUE TO THE LIMITED EXTENT OF THE ADJACENT CONCRETE STRUCTURE, THE BARS SHALL EXTEND AS FAR AS POSSIBLE AND END IN STANDARD HOOKS.

C8 STANDARD HOOKS
BARS ENDING IN RIGHT ANGLE BENDS OR HOOKS SHALL CONFORM TO THE REQUIREMENTS OF ACI 318.

C9 CHAMFERS
EXCEPT AS OTHERWISE REQUIRED, EXPOSED CONCRETE CORNERS AND EDGES SHALL HAVE 3/4" CHAMFERS. RE-ENTRANT CORNERS SHALL NOT HAVE FILLETS.

C10 CAST-IN-PLACE CONCRETE ANCHORS
ANCHORS SHALL BE HEADED BOLTS OF ASTM F1554 GRADE 55 (WITH SUPPLEMENT S1) WITH ASTM A563 HEAVY HEXAGONAL NUTS AND ASTM A36 PLATE WASHERS WITH MINIMUM SIZE CONFORMING TO TABLE 14-2 OF THE CURRENT AISC STEEL CONSTRUCTION MANUAL, UNLESS NOTED OTHERWISE. ALTERNATELY, ANCHORS SHALL BE THREADED AND NUTTED ROD CONFORMING TO ASTM F1554 GRADE 55 (WITH SUPPLEMENT S1) WITH THE EMBEDDED NUT THREADED ON AND WELDED TO THE ROD. ALL MATERIALS SHALL BE HOT DIP GALVANIZED.

C11 POST-INSTALLED ADHESIVE ANCHORS
ADHESIVE ANCHORS AND THEIR PROPERTIES SUCH AS DIAMETER, SPACING, EDGE DISTANCE, EMBEDMENT AND MATERIAL/FINSH SHALL CONFORM TO DETAILS IN THESE DRAWINGS. AT CONTRACTOR'S OPTION, AN EQUIVALENT ALTERNATE ADHESIVE ANCHOR MAY BE SUBSTITUTED, PROVIDED THE ALTERNATE PRODUCT SUBMITTAL IS SUPPLEMENTED WITH CALCULATIONS INDICATING THAT THE PRODUCT MEETS OR EXCEEDS PROPERTIES OF THE ORIGINAL PRODUCT. THE SUPPLEMENTAL CALCULATIONS SHALL BE STAMPED AND SIGNED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF PROJECT LOCATION. ACCEPTABLE ADHESIVE ANCHORS SHALL BE ICC APPROVED FOR SEISMIC LOADS AND USE IN CRACKED AND UNCRACKED CONCRETE. SUBMITTAL SHALL INCLUDE PRODUCT ESR REPORT.

THREADED ROD SHALL BE F1554 GRADE 55 (WITH SUPPLEMENT S1) HOT DIP GALVANIZED.

C12 INSTALLATION OF POST-INSTALLED ANCHORS
ALL ADHESIVE ANCHORS SHALL BE INSTALLED IN STRICT CONFORMANCE TO MANUFACTURER'S DIRECTIONS.

C13 SPECIAL WEATHER CONCRETING
FOR SPECIAL WEATHER CONCRETING (HOT & COLD CONCRETING) ADHERE TO REPORTS OF ACI COMMITTEE 305, "HOT WEATHER CONCRETING", AND ACI 306, "COLD WEATHER CONCRETING."

C14 CURING
CONCRETE SHALL BE CURED IN ACCORDANCE WITH ACI 308.1.

C15 CONSTRUCTION JOINTS
LOCATION OF CONSTRUCTION JOINTS SHALL HAVE THE APPROVAL OF THE ENGINEER. CONSTRUCTION JOINTS SHALL BE DETAILED AS SHOWN ON THE DRAWINGS. UNLESS A METAL KEYED FORM IS USED, ALL CONSTRUCTION JOINTS SHALL BE ROUGHENED TO A MINIMUM 1/4" AMPLITUDE. ALL JOINT SURFACES SHALL BE THOROUGHLY CLEANED TO REMOVE GREASE, LOOSE CONCRETE, AND LAITANCE OR OTHER BOND REDUCING MATERIAL. SURFACES SHALL BE SATURATED SURFACE DRY PRIOR TO PLACING FRESH CONCRETE.

C16 CRACK CONTROL JOINTS
CCJ INDICATES A 1/8" WIDE CONTINUOUS SAW CUT CRACK CONTROL JOINT FILLED WITH ELASTOMERIC JOINT SEALANT. VERTICAL CONTROL JOINTS SHALL BE FORMED WITH 3/4" CHAMFER STRIP AND FILLED WITH ELASTOMERIC JOINT SEALANT. THE ELASTOMERIC JOINT SEALANT SHALL CONFORM TO ASTM C920, TYPE S OR M, GRADE NS, CLASS 50.

S. STEEL

S1 CODES AND SPECIFICATIONS
STEEL CONSTRUCTION SHALL CONFORM TO THE SPECIFICATIONS AND STANDARDS AS CONTAINED IN THE 14TH EDITION OF THE AISC MANUAL OF STEEL CONSTRUCTION.

S2 MATERIAL
STRUCTURAL BARS, PLATES, ANGLES, AND CHANNELS INDICATED ON THE DRAWINGS SHALL BE STEEL MEETING ASTM A36 SPECIFICATIONS. ROLLED W SECTIONS SHALL BE STEEL MEETING ASTM A572 GR50 OR ASTM A992. HOLLOW STRUCTURAL SECTIONS SHALL BE STEEL MEETING ASTM A500 GRADE B. BOLTS SHALL BE STEEL MEETING ASTM A325. HEAVY HEXAGONAL NUTS SHALL BE STEEL MEETING ASTM A563. WASHERS SHALL BE STEEL MEETING ASTM F436 UNLESS OTHERWISE NOTED.

S3 WELDING
WELDING SHALL CONFORM TO AWS D1.1 "STRUCTURAL WELDING CODE – STEEL". ELECTRODE SHALL BE E70XX GROUP, LOW HYDROGEN. LIGHT GAUGE STEEL WELDING SHALL CONFORM TO AWS D1.3. WELDING SHALL BE CONDUCTED BY WELDERS CERTIFIED BY THE AWS.

S4 HOT-DIP GALVANIZING
UNLESS OTHERWISE NOTED, ALL STEEL FABRICATIONS SHALL BE HOT-DIPPED GALVANIZED. STEEL SHALL BE GALVANIZED AFTER FABRICATION.

H. FOUNDATIONS

H1 SUBGRADE AND STRUCTURAL FILL
SUBGRADE AND BACKFILL SHALL BE IN ACCORDANCE WITH THE RECOMMENDATIONS MADE IN THE GEOTECHICAL REPORT PREPARED BY LANDAU ASSOCIATES INC. DATED JANUARY 6, 2017.

SS. STAINLESS STEEL

SS1 CODES AND SPECIFICATIONS
STAINLESS STEEL CONSTRUCTION SHALL CONFORM TO THE SPECIFICATIONS AND STANDARDS AS CONTAINED IN THE 14TH EDITION OF THE AISC MANUAL OF STEEL CONSTRUCTION IN CONJUNCTION WITH AISC DESIGN GUIDE 27.

SS2 MATERIAL
STRUCTURAL SHAPES, BARS, AND PLATES INDICATED ON THE DRAWINGS SHALL BE STAINLESS STEEL TYPE 316. WHERE SHAPES, BARS OR PLATES WILL BE WELDED, THE MATERIAL SHALL BE TYPE 316L.

PLATE, SHEET AND STRIP SHALL BE ASTM A240/A480. BARS AND SHAPES SHALL BE ASTM A276/A479.

BOLTS AND OTHER FASTENERS SHALL BE STAINLESS STEEL TYPE 316. STAINLESS STEEL BOLTS AND THREADED ROD SHALL CONFORM TO ASTM F593 ALLOY GROUP 2 CONDITION CW. STAINLESS STEEL NUTS SHALL CONFORM TO ASTM F594 ALLOY GROUP 2 CONDITION CW. STAINLESS STEEL WASHERS SHALL BE STAINLESS STEEL TYPE 316 MEETING THE DIMENSIONAL REQUIREMENTS OF ASTM F436.

SS3 WELDING
WELDING SHALL CONFORM TO AWS D1.6 STRUCTURAL WELDING CODE FOR STAINLESS STEEL. WELDING SHALL BE CONDUCTED BY WELDERS CERTIFIED BY THE AWS. WELD FILLER MATERIAL SHALL BE PREQUALIFIED FILLER METAL PER AWS D1.6.

M. MATERIAL SELECTION

M1 RACEWAYS
ALL RACEWAY EMBEDS, AND GUIDES SHALL BE STAINLESS STEEL UNLESS NOTED OTHERWISE. ALL RACEWAY GRATING SUPPORTS, STAIRS, AND WINCH AND STANDPIPE ASSEMBLIES SHALL BE STEEL COATED WITH PLASCOAT IN ACCORDANCE WITH THE SPECIFICATIONS UNLESS NOTED OTHERWISE.

M2 AERATION TOWER
ALL STEEL FOR THE AERATION TOWER SHALL BE HOT DIP GALVANIZED IN ACCORDANCE WITH THE SPECIFICATIONS.

K. SUBMITTALS

K1 STRUCTURAL STEEL AND METAL FABRICATIONS
SUBMIT SHOP DRAWINGS FOR ALL STRUCTURAL STEEL AND METAL FABRICATIONS.

K2 REINFORCING STEEL
SUBMIT SHOP DRAWINGS FOR REINFORCING STEEL FABRICATION.

K3 CONCRETE
SUBMIT CONCRETE MIX DESIGN AND CONCRETE CYLINDER TEST RESULTS.

I. STRUCTURAL TESTS AND SPECIAL INSPECTIONS

I1 STRUCTURAL TESTS AND SPECIAL INSPECTIONS
SPECIAL INSPECTION SHALL CONFORM TO SECTION 1705 OF THE 2015 WASHINGTON STATE BUILDING CODE AND ANY LOCAL AMENDMENTS. LABORATORIES FOR MATERIAL TESTING AND/OR AGENCIES FOR TESTING SERVICES SHALL BE SELECTED BY, ENGAGED BY, AND RESPONSIBLE TO THE OWNER / OWNERS REPRESENTATIVE.

THE FOLLOWING ITEMS REQUIRE SPECIAL INSPECTION PER IBC CHAPTER 17. THESE INSPECTIONS SHALL BE PERFORMED BY A QUALIFIED SPECIAL INSPECTOR.

ITEM	DESCRIPTION
INSPECTION OF REINFORCING STEEL, INCLUDING PLACEMENT	FREQUENCY: PERIODIC REFERENCE: IBC 2015 TABLE 1705.3
INSPECTION OF ANCHORS CAST IN CONCRETE	FREQUENCY: PERIODIC REFERENCE: IBC 2015 TABLE 1705.3
INSPECTION OF ANCHORS POST-INSTALLED IN HARDENED CONCRETE MEMBERS	FREQUENCY: PERIODIC REFERENCE: IBC 2015 TABLE 1705.3
VERIFYING USE OF REQUIRED DESIGN MIX	FREQUENCY: PERIODIC REFERENCE: IBC 2015 TABLE 1705.3
PRIOR TO CONCRETE PLACEMENT, FABRICATE SPECIMENS FOR STRENGTH TESTS, PERFORM SLUMP AND AIR CONTENT TESTS, AND DETERMINE THE TEMPERATURE OF THE CONCRETE	FREQUENCY: CONTINUOUS REFERENCE: IBC 2015 TABLE 1705.3
CONCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES	FREQUENCY: CONTINUOUS REFERENCE: IBC 2015 TABLE 1705.3
VERIFY MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUE	FREQUENCY: PERIODIC REFERENCE: IBC 2015 TABLE 1705.3
INSPECTION OF FORMWORK FOR SHAPE, LOCATION AND DIMENSIONS	FREQUENCY: PERIODIC REFERENCE: IBC 2015 TABLE 1705.3
VERIFY MATERIALS BELOW SHALLOW FOUNDATIONS ARE ADEQUATE TO ACHIEVE THE DESIGN BEARING CAPACITY	FREQUENCY: PERIODIC REFERENCE: IBC 2015 TABLE 1705.6
VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH AND HAVE REACHED PROPER MATERIAL	FREQUENCY: PERIODIC REFERENCE: IBC 2015 TABLE 1705.6
PERFORM CLASSIFICATION AND TESTING OF COMPACTED FILL MATERIALS	FREQUENCY: PERIODIC REFERENCE: IBC 2015 TABLE 1705.6
VERIFY USE OF PROPER MATERIALS, DENSITIES AND LIFT THICKNESSES DURING PLACEMENT AND COMPACTION OF COMPACTED FILL	FREQUENCY: CONTINUOUS REFERENCE: IBC 2015 TABLE 1705.6
PRIOR TO PLACEMENT OF COMPACTED FILL, INSPECT SUBGRADE AND VERIFY THAT SITE HAS BEEN PROPERLY PREPARED	FREQUENCY: PERIODIC REFERENCE: IBC 2015 TABLE 1705.6
PRIOR TO WELDING, WELDING PROCEDURE SPECIFICATIONS AVAILABLE AND MANUFACTURER CERTIFICATIONS OF WELDING CONSUMABLES AVAILABLE	FREQUENCY: PERFORM FOR EACH JOINT REFERENCE: AISC 360-10 TABLE N5.4-1
PRIOR TO WELDING, MATERIAL IDENTIFICATION, WELDER IDENTIFICATION SYSTEM, FIT-UP OF GROOVE AND FILLET WELDS, CONFIGURATION AND FINISH OF ACCESS HOLES, CHECK WELDING EQUIPMENT	FREQUENCY: OBSERVE RANDOMLY REFERENCE: AISC 360-10 TABLE N5.4-1
DURING WELDING, USE OF QUALIFIED WELDERS, CONTROL AND HANDLING OF WELDING CONSUMABLES, NO WELDING OVER CRACKED TACK WELDS, ENVIRONMENTAL CONDITIONS, WPS FOLLOWED, WELDING TECHNIQUES	FREQUENCY: OBSERVE RANDOMLY REFERENCE: AISC 360-10 TABLE N5.4-2
AFTER WELDING, WELDS CLEANED	FREQUENCY: OBSERVE RANDOMLY REFERENCE: AISC 360-10 TABLE N5.4-3
AFTER WELDING, SIZE, LENGTH AND LOCATION OF WELD,S WELDS MEET VISUAL ACCEPTANCE CRITERIA, ARC STRIKES, K-AREA, BACKING REMOVED AND WELD TABS REMOVED, REPAIR ACTIVITIES, DOCUMENT ACCEPTANCE OR REJECTION OF WELDED JOINT OR MEMBER	FREQUENCY: PERFORM FOR EACH JOINT REFERENCE: AISC 360-10 TABLE N5.4-3
PRIOR TO BOLTING, MANUFACTURER'S CERTIFICATIONS AVAILABLE FOR FASTENER MATERIALS	FREQUENCY: PERFORM FOR EACH JOINT REFERENCE: AISC 360-10 TABLE N5.6-1
PRIOR TO BOLTING, FASTENERS MARKED IN ACCORDANCE WITH ASTM REQUIREMENTS, PROPER FASTENERS SELECTED FOR JOINT DETAIL, PROPER BOLTING PROCEDURE SELECTED FOR JOINT DETAIL, CONNECTING ELEMENTS, INCLUDING THE APPROPRIATE FAYING SURFACE CONDITION AND HOLE PREPARATION MEET APPLICABLE REQUIREMENTS, PRE-INSTALLATION VERIFICATION TESTING BY INSTALLATION PERSONNEL OBSERVED AND DOCUMENTED FOR FASTENER ASSEMBLIES AND METHODS USED PROPER STORAGE PROVIDED FOR BOLTS, NUTS, WASHERS AND OTHER FASTENER COMPONENTS	FREQUENCY: OBSERVE RANDOMLY REFERENCE: AISC 360-10 TABLE N5.6-1
DURING BOLTING, FASTENER ASSEMBLIES, OF SUITABLE CONDITION, PLACED IN ALL HOLES AND WASHERS ARE POSITIONED AS REQUIRED, JOINT BROUGHT TO THE SNUG-TIGHT CONDITION PRIOR TO PRETENSIONING OPERATION, FASTENER COMPONENT NOT TURNED BY THE WRENCH PREVENTED FROM ROTATING, FASTENERS ARE PRETENSIONED IN ACCORDANCE WITH THE RCSC SPECIFICATION	FREQUENCY: OBSERVE RANDOMLY REFERENCE: AISC 360-10 TABLE N5.6-2
AFTER BOLTING, DOCUMENT ACCEPTANCE OR REJECTION OF BOLTED CONNECTIONS	FREQUENCY: PERFORM FOR EACH JOINT REFERENCE: AISC 360-10 TABLE N5.6-3

SHEET NUMBER
S0.1

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APPROVED AND RELEASED FOR CONSTRUCTION

CHIEF ENGINEER ..... DATE: .....

PROGRAM ..... DATE: .....

NOT FOR CONSTRUCTION

0 —— 1"
BAR MEASURES ONE INCH ON ORIGINAL DRAWINGS

DESIGNED BY RWM
CHECKED BY HRN
DRAWN BY RWM
DATE MAY 2017

HOODSPORT HATCHERY
REARING POND REPLACEMENT
STRUCTURAL GENERAL NOTES

PROJECT NO.
MN:H23:16-1

SHEET 24 OF

5/4/2017 1:23:41 PM – P:\15891\200-15891-17001\CAD\SHEETFILES\H023161G024.DWG – NORDHOLM, ERIK

NOTES:

1. TENSION LAP SPLICE LENGTH PER SCHEDULE
2. REINFORCING BARS 100% CONTINUOUS FROM FIRST POUR ACROSS JOINT.
3. REINFORCING BARS CONTINUOUS ACROSS JOINTS

   WALLS

   SINGLE MAT ~ TERMINATE EVERY OTHER HORIZONTAL BAR 2 INCHES FROM JOINT BOTH SIDES

   DOUBLE MAT ~ TERMINATE EVERY OTHER PAIR OF HORIZONTAL BARS 2 INCHES FROM JOINT BOTH SIDES

   SLABS

   SINGLE MAT ~ TERMINATE EVERY OTHER BAR 2 INCHES FROM JOINT BOTH SIDES

   DOUBLE MAT ~ TERMINATE EVERY OTHER TOP BAR 2 INCHES FROM JOINT BOTH SIDES
4. 3/4 INCH CHAMFER TYPICAL BOTH SIDES
5. 3/4 INCH TOOLED EDGE TOP SIDE ONLY
6. SAWCUT 1/8 INCH WIDE WITH DEPTH AS DETAILED ~ JOINT FORMED WITH TOOL OR INSERT STRIP MAY BE SUBSTITUTED FOR SAWED TYPE JOINT ONLY WITH WRITTEN PRIOR APPROVAL BY THE ENGINEER
7. WATERSTOP PER SPECIFICATIONS
8. DOWEL BAR AND DOWEL EXPANSION CAP PER SPECIFICATIONS AT ONE FOOT ON CENTER
9. ALL BARS DISCONTINUOUS ACROSS JOINT ~ TERMINATE 2 INCHES FROM JOINT BOTH SIDES
10. PRE-MOLDED JOINT FILLER PER SPECIFICATIONS
11. EPOXY SEAL PER SPECIFICATIONS
12. CORNER BARS TYPICAL ~ BAR SIZE SAME AS REINFORCEMENT THAT DIRECTION
13. STANDARD HOOK TYPICAL ~ BAR SIZE SAME AS REINFORCEMENT THAT DIRECTION

TENSION LAP SPLICE LENGTHS

	UNCOATED BARS		EPOXY COATED BARS	
BAR SIZE	TOP BARS	OTHERS	TOP BARS	OTHERS
4	2'-8"	2'-1"	3'-4"	2'-6"
5	3'-4"	2'-7"	4'-0"	3'-1"
6	4'-0"	3'-1"	5'-0"	3'-9"
7	5'-10"	4'-6"	7'-0"	5'-5"
8	6'-8"	5'-1"	8'-0"	6'-2"
9	7'-6"	5'-10"	9'-1"	6'-11"

NOTES:

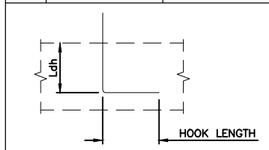
A. TOP BARS: WHERE MORE THAN 12 INCHES OF CONCRETE IS PLACED BELOW THE REINFORCEMENT.

B. ASSUMES TENSION LAP SPLICE GRADE 60 BARS CLASS B 4000 PSI CONCRETE.

C. TO BE USED FOR ALL TENSION LAP SPLICES UNLESS APPROVED BY THE ENGINEER OR NOTED OTHERWISE ON THE DRAWINGS.

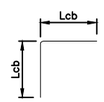
DOWEL BAR EMBEDMENT

BAR SIZE	Ldh	HOOK LENGTH
4	10"	8
5	12"	10
6	15"	12
7	17"	14
8	19"	16
9	22"	19

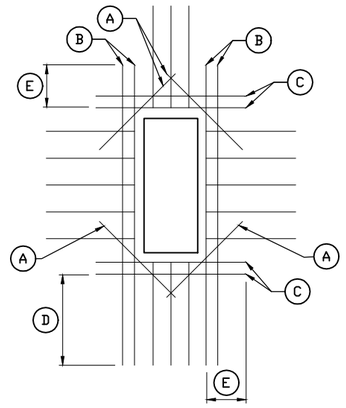


CORNER BAR LENGTH

BAR SIZE	Lcb
3	1'-4"
4	1'-9"
5	2'-3"
6	2'-7"
7	3'-10"

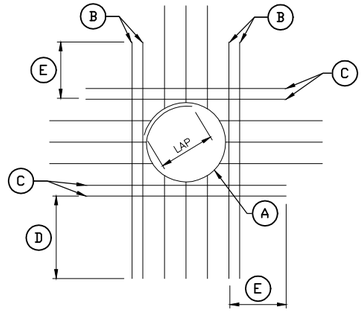


REINFORCING DETAILS S1 -25
NOT TO SCALE



SQUARE OR RECTANGULAR OPENING REINFORCEMENT
NOT TO SCALE

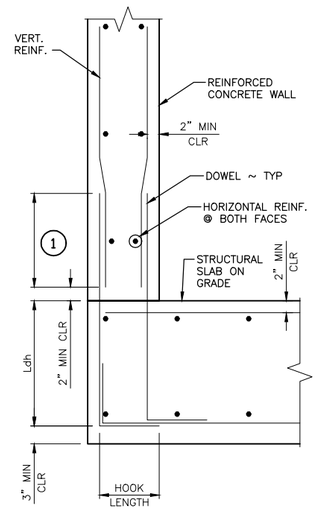
A. ADD NO. 5 DIAGONAL, 4 FEET IN LENGTH AT EACH CORNER OF EACH LAYER
B. PLACE THE SAME SIZE BAR AS VERTICAL REINFORCEMENT EACH SIDE OF OPENING EQUAL TO THE NUMBER OF BARS CUT. PLACE ONE-HALF OF BARS EACH SIDE OF OPENING.
C. PLACE THE SAME SIZE BAR AS HORIZONTAL REINFORCEMENT EACH SIDE OF OPENING EQUAL THE NUMBER OF BARS CUT. PLACE ONE-HALF OF BARS EACH SIDE OF OPENING.
D. PROVIDE LAP SPLICE (2 FEET MINIMUM) AS REQUIRED PER THE DRAWINGS OR SPECIFICATIONS TO VERTICAL DOWELS.
E. PROVIDE LAP SPLICE OF DEVELOPMENT LENGTH (2 FEET MINIMUM) AS REQUIRED PER THE DRAWINGS OR SPECIFICATIONS.



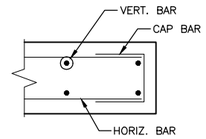
ROUND OPENING REINFORCEMENT
NOT TO SCALE

A. ADD NO. 5 HOOP WITH A DIAMETER EQUAL TO THE DIAMETER OF THE OPENING PLUS 8 INCHES WITH 18 INCH LAP SPLICE. PLACE ONE HOOP AT EACH LAYER OF REINFORCEMENT.
B. PLACE THE SAME SIZE BAR AS VERTICAL REINFORCEMENT EACH SIDE OF OPENING EQUAL TO THE NUMBER OF BARS CUT. PLACE ONE-HALF OF BARS EACH SIDE OF OPENING.
C. PLACE THE SAME SIZE BAR AS HORIZONTAL REINFORCEMENT EACH SIDE OF OPENING EQUAL THE NUMBER OF BARS CUT. PLACE ONE-HALF OF BARS EACH SIDE OF OPENING.
D. PROVIDE LAP SPLICE (2 FEET MINIMUM) AS REQUIRED PER THE DRAWINGS OR SPECIFICATIONS TO VERTICAL DOWELS.
E. PROVIDE LAP SPLICE OF DEVELOPMENT LENGTH (2 FEET MINIMUM) AS REQUIRED PER THE DRAWINGS OR SPECIFICATIONS.

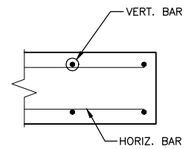
OPENING REINFORCING DETAILS S2 -25
NOT TO SCALE



DOWEL BAR DETAIL
NOT TO SCALE



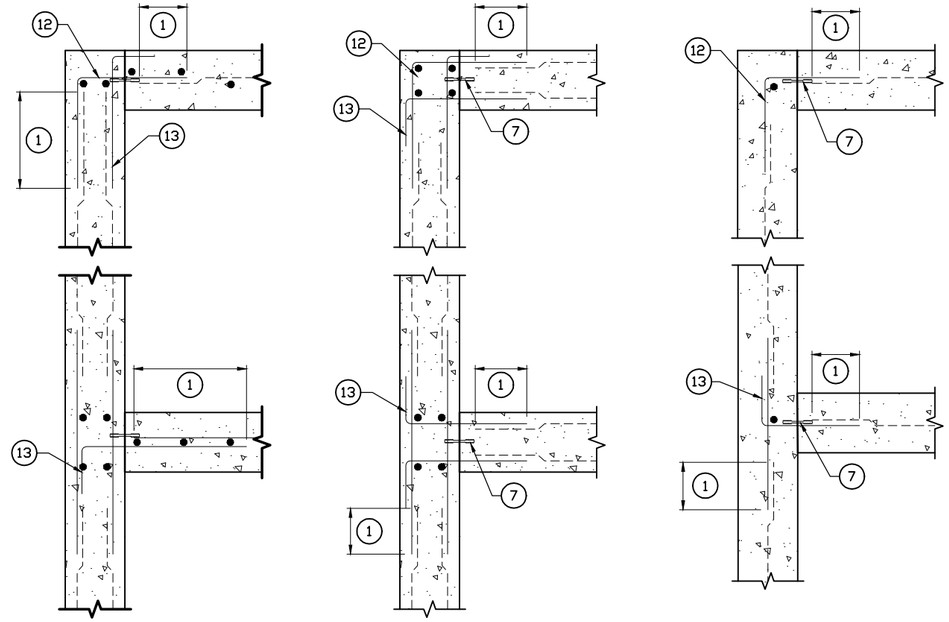
VERTICAL BARS INSIDE



VERTICAL BARS OUTSIDE

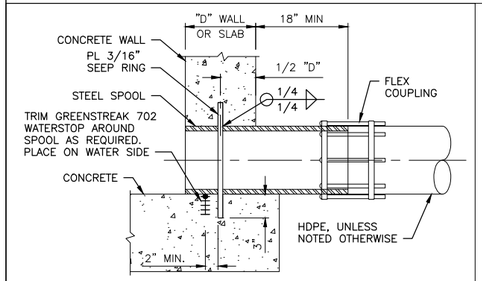
END OF WALL DETAIL
NOT TO SCALE

REINFORCING DETAILS S3 -25
NOT TO SCALE



CORNER AND INTERSECTION REINFORCING WITH WATERSTOP S4 -25
NOT TO SCALE

NOTE:
OK TO RUN HORIZ. BARS
CONTINUOUS THROUGH INTERSECTION



STEEL SPOOL WITH SEEP RING AND WATESTOP S5 -25
NOT TO SCALE

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		PROGRAM ..... DATE:	

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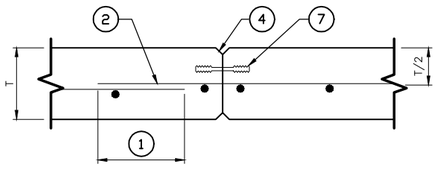
0 — 1"
BAR MEASURES ONE INCH ON ORIGINAL DRAWINGS

DESIGNED BY RWM
CHECKED BY HRN
DRAWN BY RWM
DATE APR 2017

HOODSPORT HATCHERY
REARING POND REPLACEMENT
TYPICAL CONCRETE DETAILS

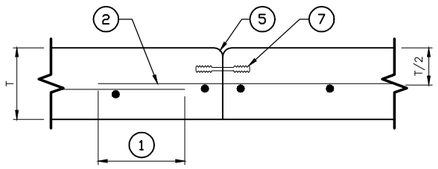
SHEET NUMBER S0.2
PROJECT NO. MN:H23:16-1
SHEET 25 OF

4/28/2017 10:06:18 AM - P:\15891\200-15891-17001\CAD\SHEETFILES\H02316102S25.DWG - MAAS, RYAN



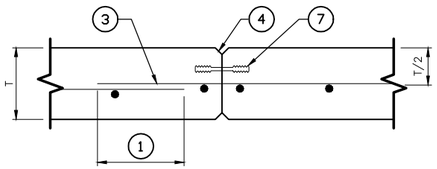
WALL CONSTRUCTION
JOINT WITH WATERSTOP
NOT TO SCALE

S6
–26



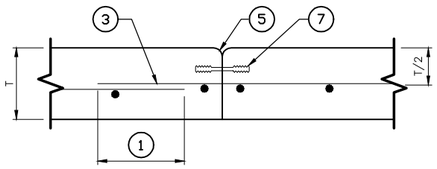
SLAB CONSTRUCTION
JOINT WITH WATERSTOP
NOT TO SCALE

S10
–26



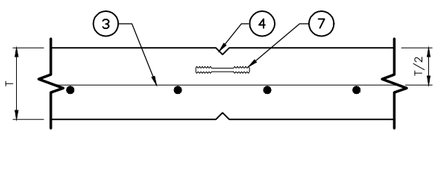
WALL CONSTRUCTION–CONTROL
JOINT WITH WATERSTOP
NOT TO SCALE

S14
–26



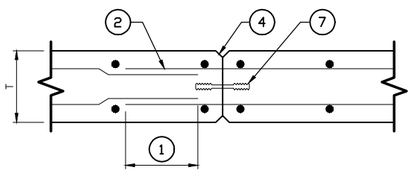
SLAB CONSTRUCTION–CONTROL
JOINT WITH WATERSTOP
NOT TO SCALE

S18
–26



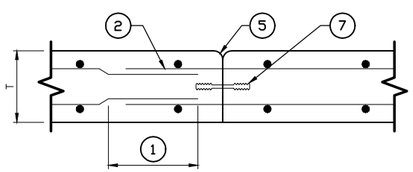
WALL CONTROL
JOINT WITH WATERSTOP
NOT TO SCALE

S20
–26



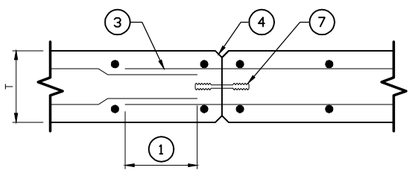
WALL CONSTRUCTION
JOINT WITH WATERSTOP
NOT TO SCALE

S7
–26



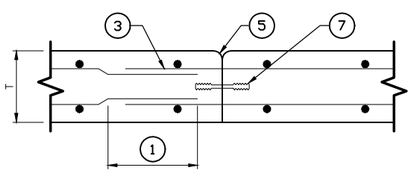
SLAB CONSTRUCTION
JOINT WITH WATERSTOP
NOT TO SCALE

S11
–26



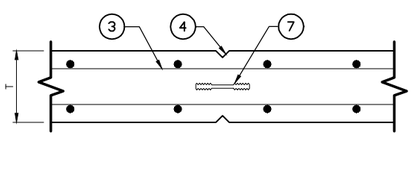
WALL CONSTRUCTION–CONTROL
JOINT WITH WATERSTOP
NOT TO SCALE

S15
–26



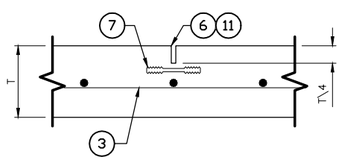
SLAB CONSTRUCTION–CONTROL
JOINT WITH WATERSTOP
NOT TO SCALE

S19
–26



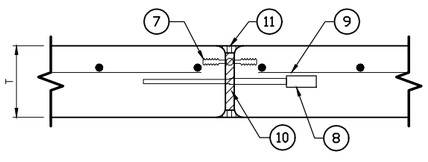
WALL CONTROL
JOINT WITH WATERSTOP
NOT TO SCALE

S21
–26



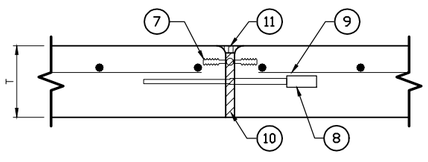
SLAB CONTROL JOINT
WITH WATERSTOP
NOT TO SCALE

S8
–26



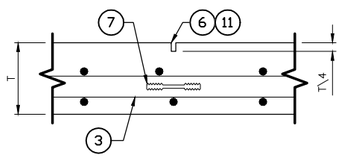
WALL EXPANSION
JOINT WITH WATERSTOP
NOT TO SCALE

S12
–26



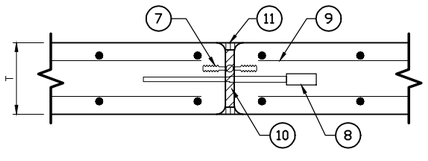
SLAB EXPANSION
JOINT WITH WATERSTOP
NOT TO SCALE

S16
–26



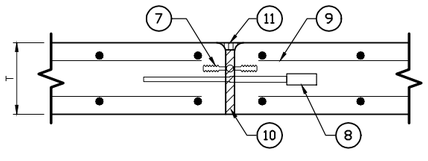
SLAB CONTROL
JOINT WITH WATERSTOP
NOT TO SCALE

S9
–26



WALL EXPANSION
JOINT WITH WATERSTOP
NOT TO SCALE

S13
–26



SLAB EXPANSION
JOINT WITH WATERSTOP
NOT TO SCALE

S17
–26

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CHIEF ENGINEER ..... DATE: .....

PROGRAM ..... DATE: .....

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0 —— 1"
BAR MEASURES ONE INCH ON ORIGINAL DRAWINGS

DESIGNED BY RWM
CHECKED BY HRN
DRAWN BY RWM
DATE APR 2017

HOODSPORT HATCHERY

REARING POND REPLACEMENT

TYPICAL CONCRETE DETAILS

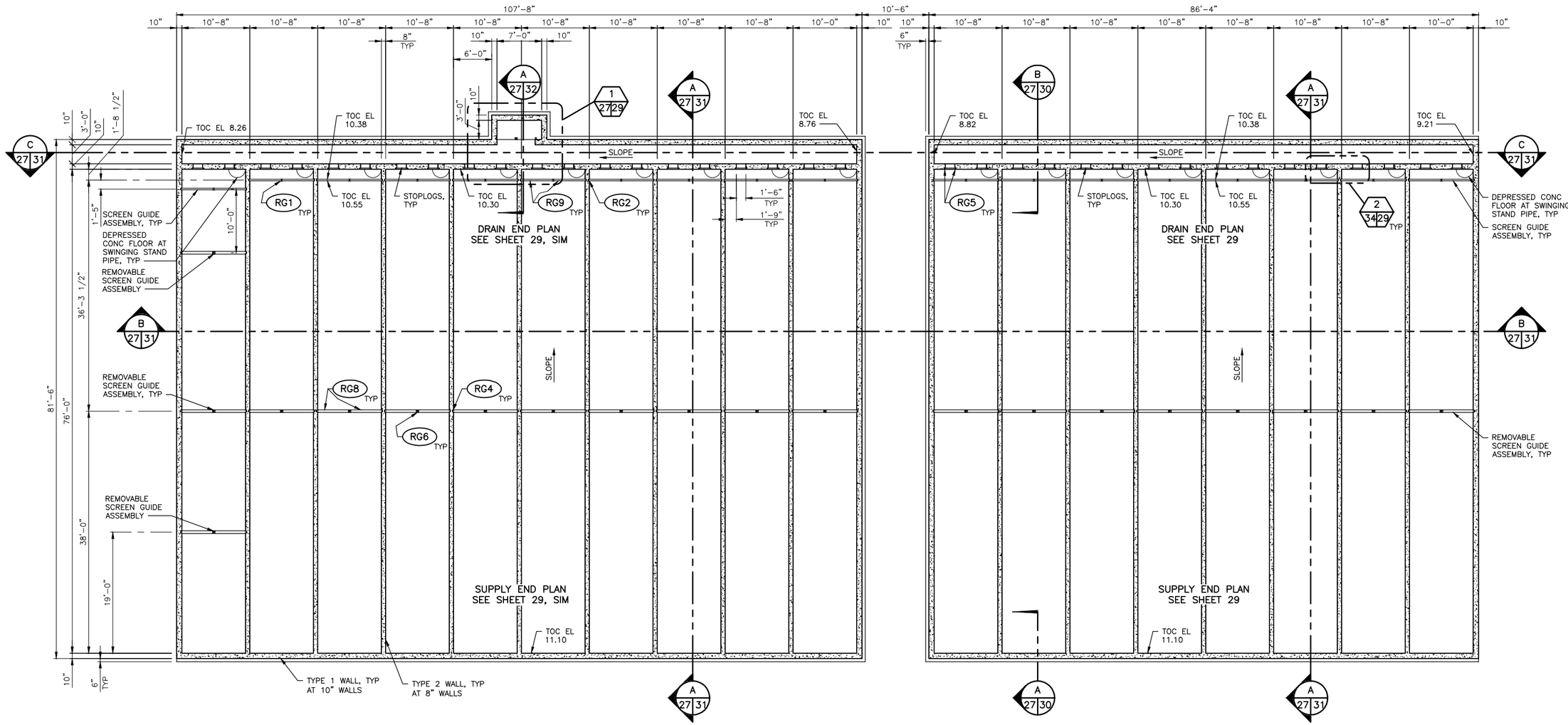
SHEET NUMBER
S0.3

PROJECT NO.
MN:H23:16–1

SHEET 26 OF

NOTE:

1. SEE NOTE M1 ON DRAWING 24 FOR MATERIAL OF ALL EMBEDS AND GRATING SUPPORTS.



RACEWAYS BOTTOM PLAN

SCALE: 1/8" = 1'-0"

0 4' 8' 16'
2' 6' 12' 24'
SCALE: 1/8" = 1'-0"

LEGEND

RG# GUIDES, SEE SHEET 35, 36, 37, & 38

RGS# GRATING SUPPORT, SEE SHEETS 39, 40, 41 & 42

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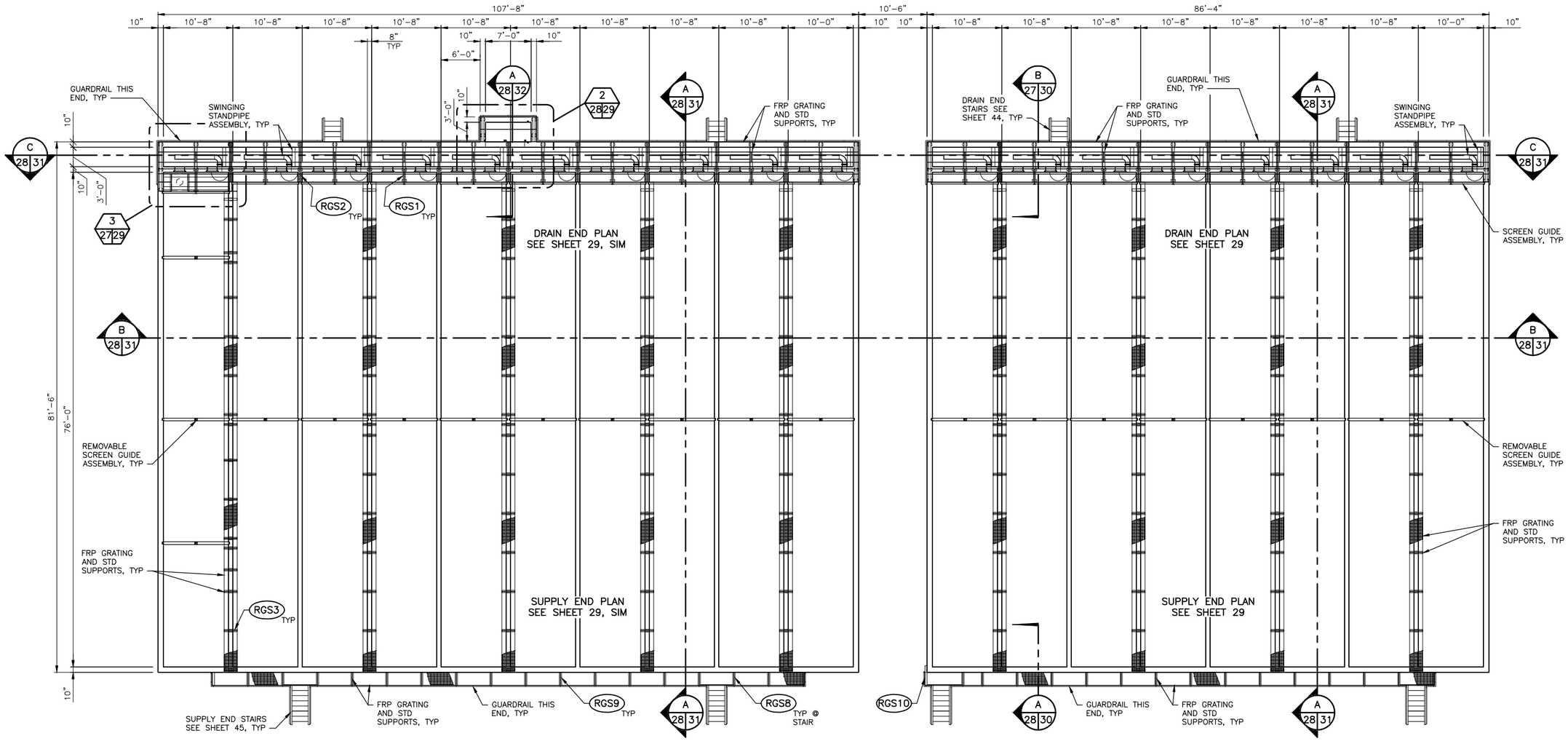
DRAWN BY RWM
DATE APR 2017

HOODSPORT HATCHERY
REARING POND REPLACEMENT
RACEWAY BOTTOM PLAN

SHEET NUMBER S1.1
PROJECT NO. MN:H23:16-1
SHEET 27 OF

NOTE:

1. SEE NOTE M1 ON DRAWING 24 FOR MATERIAL OF ALL EMBEDS AND GRATING SUPPORTS.



RACEWAYS TOP PLAN
SCALE: 1/8" = 1'-0"

LEGEND

RG# GUIDES, SEE SHEET 35, 36, 37, & 38

RGS# GRATING SUPPORT, SEE SHEETS 39, 40, 41 & 42

0 4' 8' 16'
2' 6' 12' 24'
SCALE: 1/8" = 1'-0"

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PROGRAM ..... DATE: .....

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0 1"
BAR MEASURES ONE INCH ON ORIGINAL DRAWINGS

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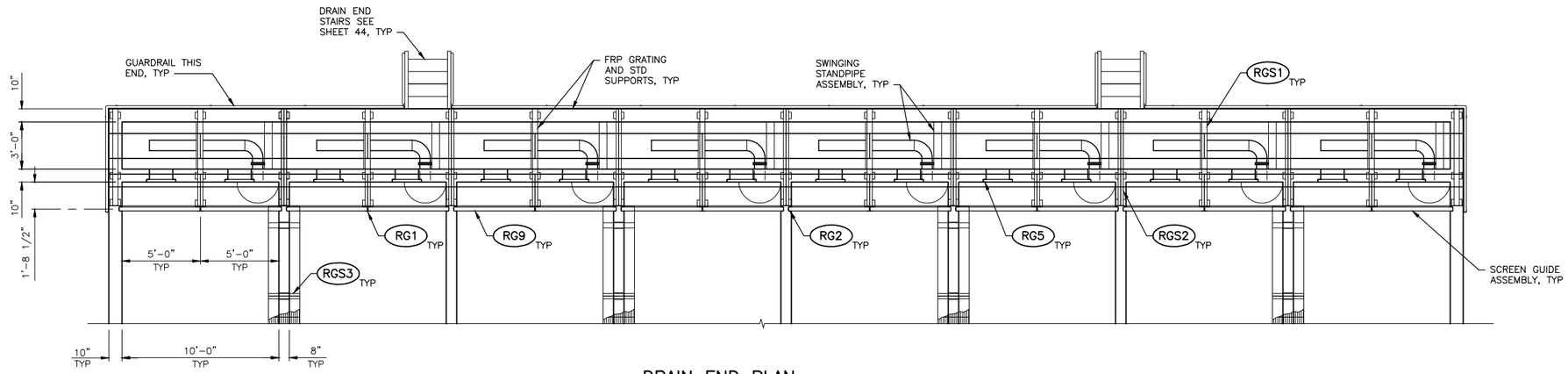
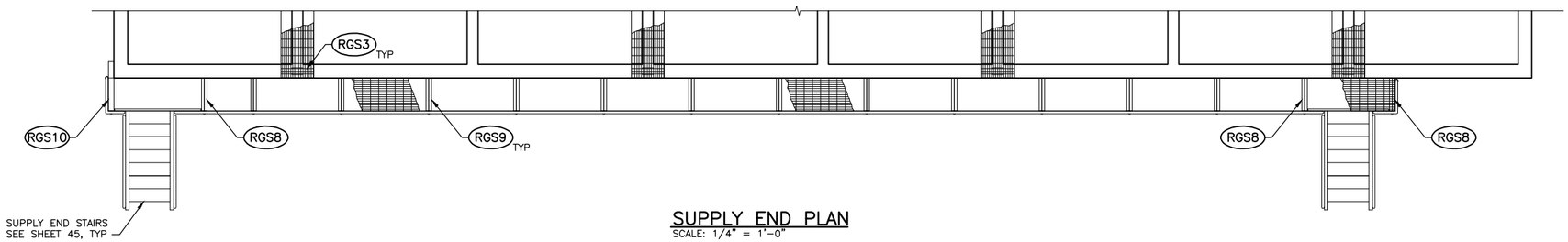
CHECKED BY HRN
DRAWN BY RWM
DATE APR 2017

HOODSPORT HATCHERY
REARING POND REPLACEMENT
RACEWAY TOP PLAN

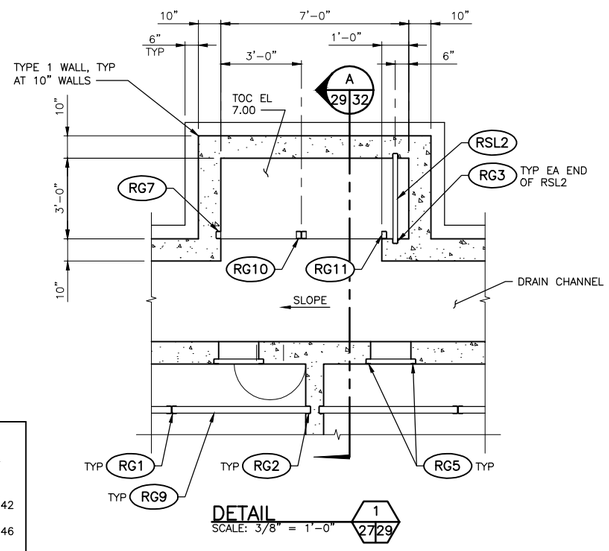
SHEET NUMBER S1.2
PROJECT NO. MN:H23:16-1
SHEET 28 OF



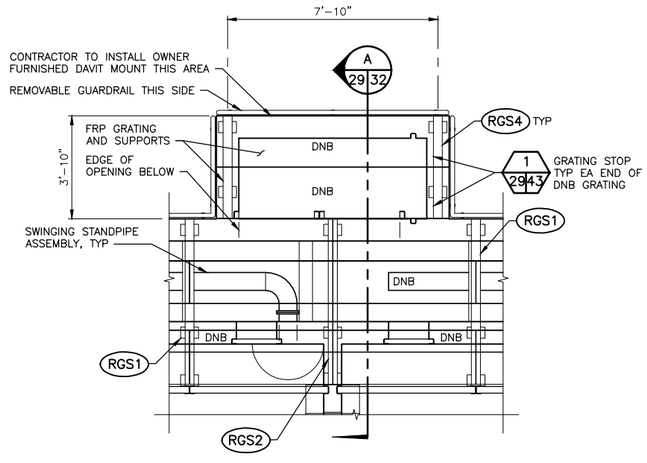
DRAIN END PLAN
SCALE: 1/4" = 1'-0"



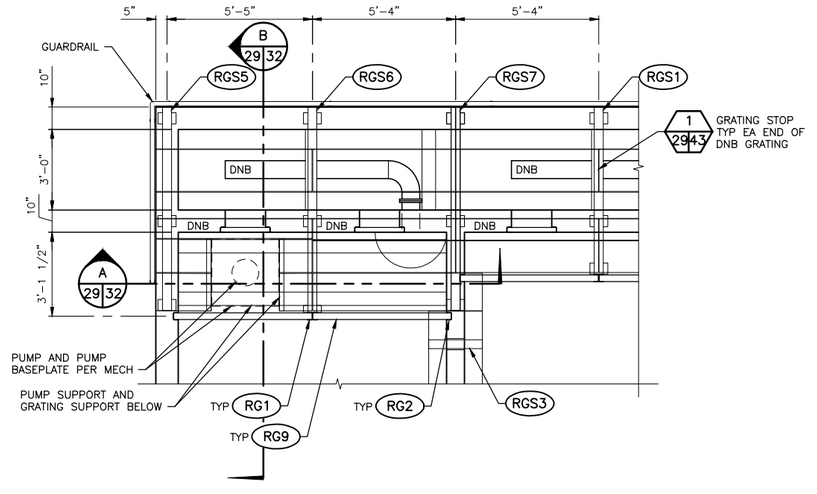
SUPPLY END PLAN
SCALE: 1/4" = 1'-0"



DETAIL 1 27 29
SCALE: 3/8" = 1'-0"



DETAIL 2 28 29
SCALE: 3/8" = 1'-0"



DETAIL 3 28 29
SCALE: 3/8" = 1'-0"

LEGEND

RG#	GUIDES, SEE SHEET 35, 36, 37, & 38
RGS#	GRATING SUPPORT, SEE SHEETS 39, 40, 41 & 42
RSL#	STOP LOG, SEE SHEET 46
DNB	DO NOT BOLT GRATING AT LOCATION SHOWN

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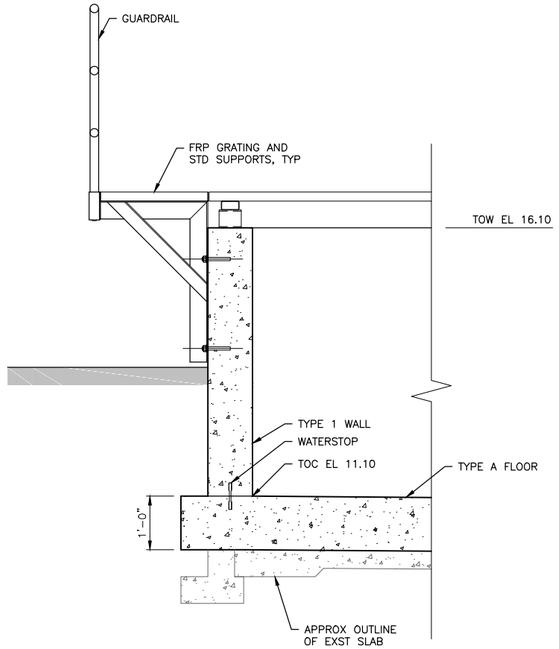
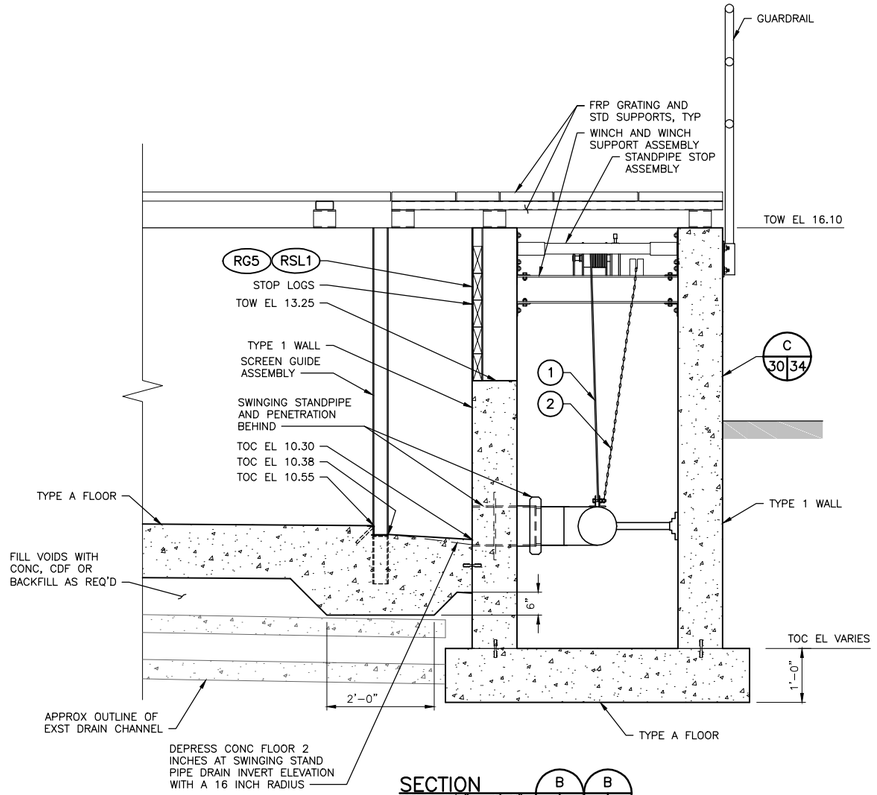
DRAWN BY RWM
DATE APR 2017

HOODSPORT HATCHERY
REARING POND REPLACEMENT
RACEWAY ENLARGED PLANS

SHEET NUMBER S1.3
PROJECT NO. MN:H23:16-1
SHEET 29 OF



SECTION (A 27|30 / A 28|30)
SCALE: 3/4" = 1'-0"



SECTION (B 27|30 / B 28|30)
SCALE: 3/4" = 1'-0"

NOTES:
1. 1/4 INCH DIAMETER GALVANIZED 7x7 AIRCRAFT CABLE, 20 FEET LONG, WITH SWAGE END CLOSED SOCKET EYE TERMINAL.
2. SAFETY CHAIN, 1/4 INCH GALVANIZED STEEL, FASTEN TO CONNECTION OF SWINGING STANDPIPE.

LEGEND
- RG# — GUIDES, SEE SHEET 35, 36, 37, & 38
- RGS# — GRATING SUPPORT, SEE SHEETS 39, 40, 41 & 42
- RSL# — STOP LOG, SEE SHEET 46

0 1'-4" 2'-8" / 0'-8" 2'-0" 4'-0"
SCALE: 3/4" = 1'-0"

SHEET NUMBER S1.4

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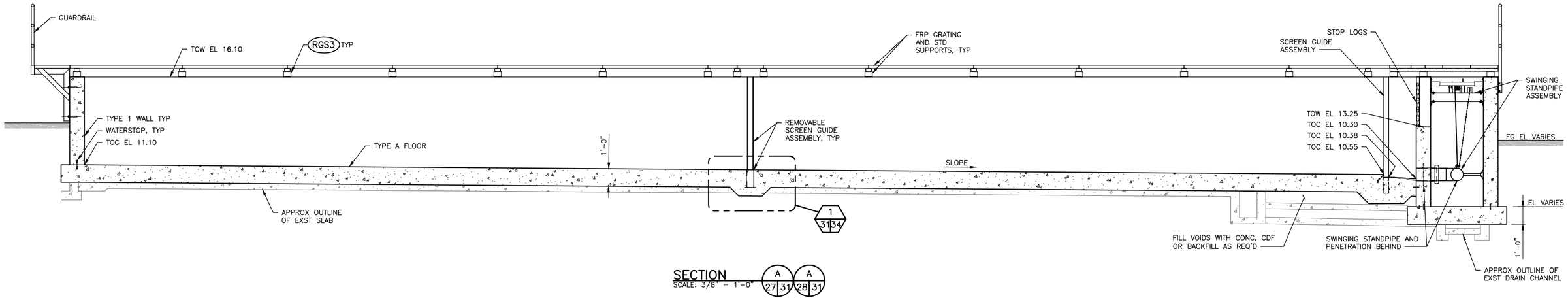
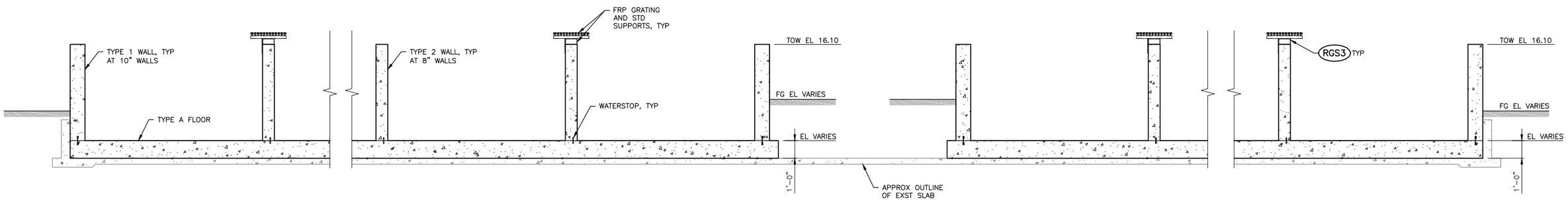
HOODSPORT HATCHERY
REARING POND REPLACEMENT
RACEWAY SECTIONS

PROJECT NO. MN:H23:16-1
SHEET 30 OF

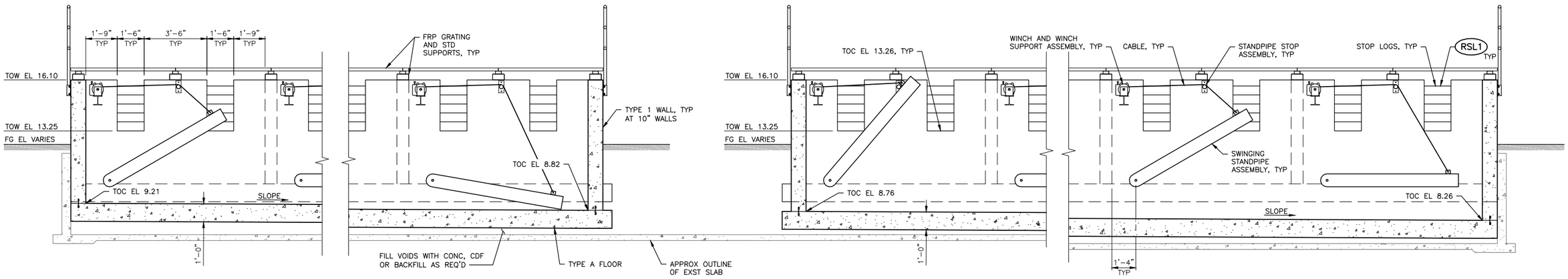
4/28/2017 10:08:31 AM – P:\15891\200-15891-17001\CAD\SHEETFILES\H023161C030.DWG – MAAS, RYAN



SECTION A A
SCALE: 3/8" = 1'-0" 27 31 28 31



SECTION B B
SCALE: 3/8" = 1'-0" 27 31 28 31



SECTION C C
SCALE: 3/8" = 1'-0" 27 31 28 31

LEGEND

- RG# — GUIDES, SEE SHEET 35, 36, 37, & 38
- RGS# — GRATING SUPPORT, SEE SHEETS 39, 40, 41 & 42
- RSL# — STOP LOG, SEE SHEET 46

0 2'-8" 5'-4"
1'-4" 4'-0" 8'-0"
SCALE: 3/8" = 1'-0"

SHEET NUMBER S1.5

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HOODSPORT HATCHERY
REARING POND REPLACEMENT
RACEWAY SECTIONS

PROJECT NO. MN:H23:16-1

SHEET 31 OF

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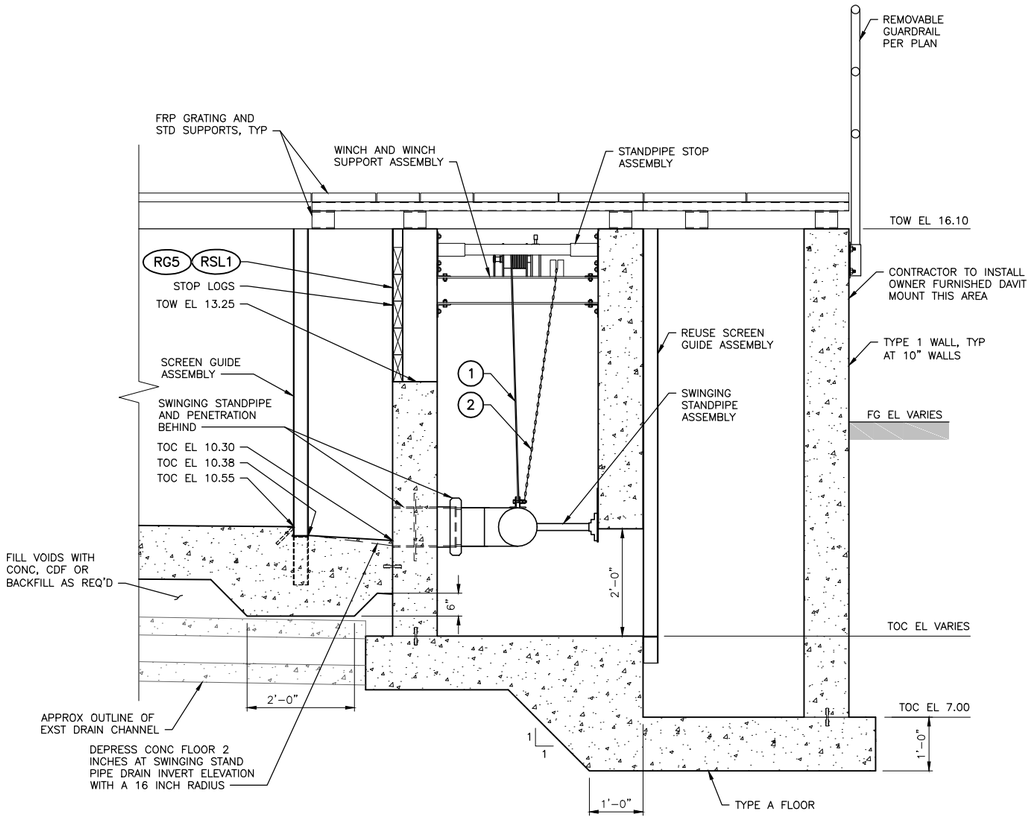
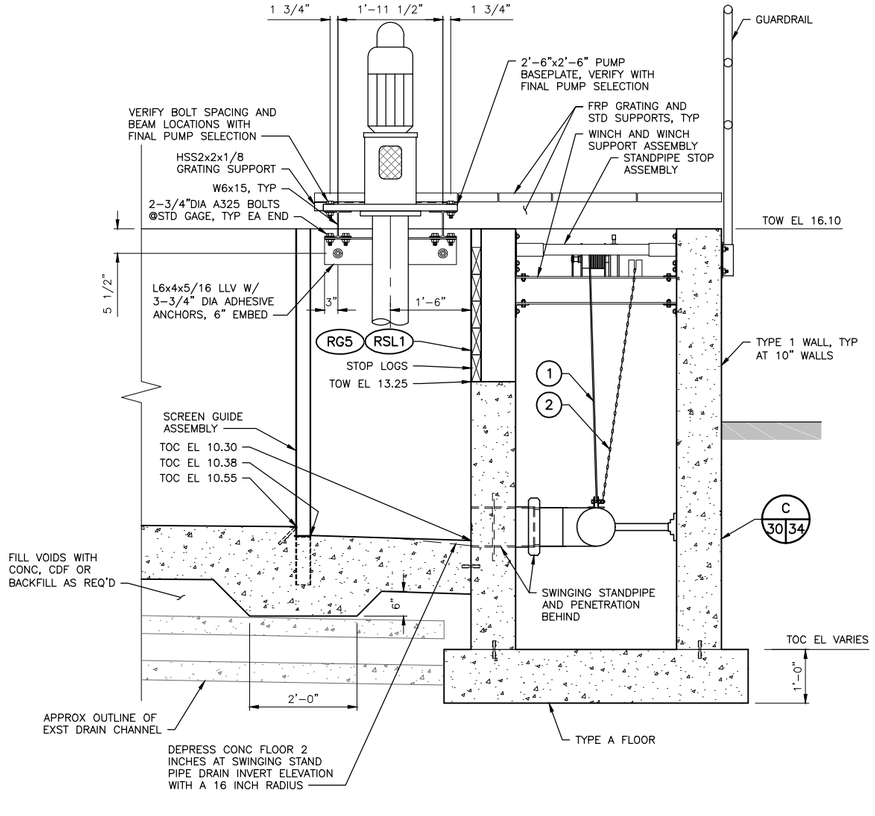


SECTION (A | 27/32 | 28/32 | 29/32)
SCALE: 3/4" = 1'-0"



SECTION (B | 29/32)
SCALE: 3/4" = 1'-0"

NOTES:

1. 1/4 INCH DIAMETER GALVANIZED 7x7 AIRCRAFT CABLE, 20 FEET LONG, WITH SWAGE END CLOSED SOCKET EYE TERMINAL.
2. SAFETY CHAIN, 1/4 INCH GALVANIZED STEEL, FASTEN TO CONNECTION OF SWINGING STANDPIPE.

LEGEND

- RG# — GUIDES, SEE SHEET 35, 36, 37, & 38
- RGS# — GRATING SUPPORT, SEE SHEETS 39, 40, 41 & 42
- RSL# — STOP LOG, SEE SHEET 46

0 1'-4" 2'-8"
0'-8" 2'-0" 4'-0"
SCALE: 3/4" = 1'-0"

SHEET NUMBER S1.6

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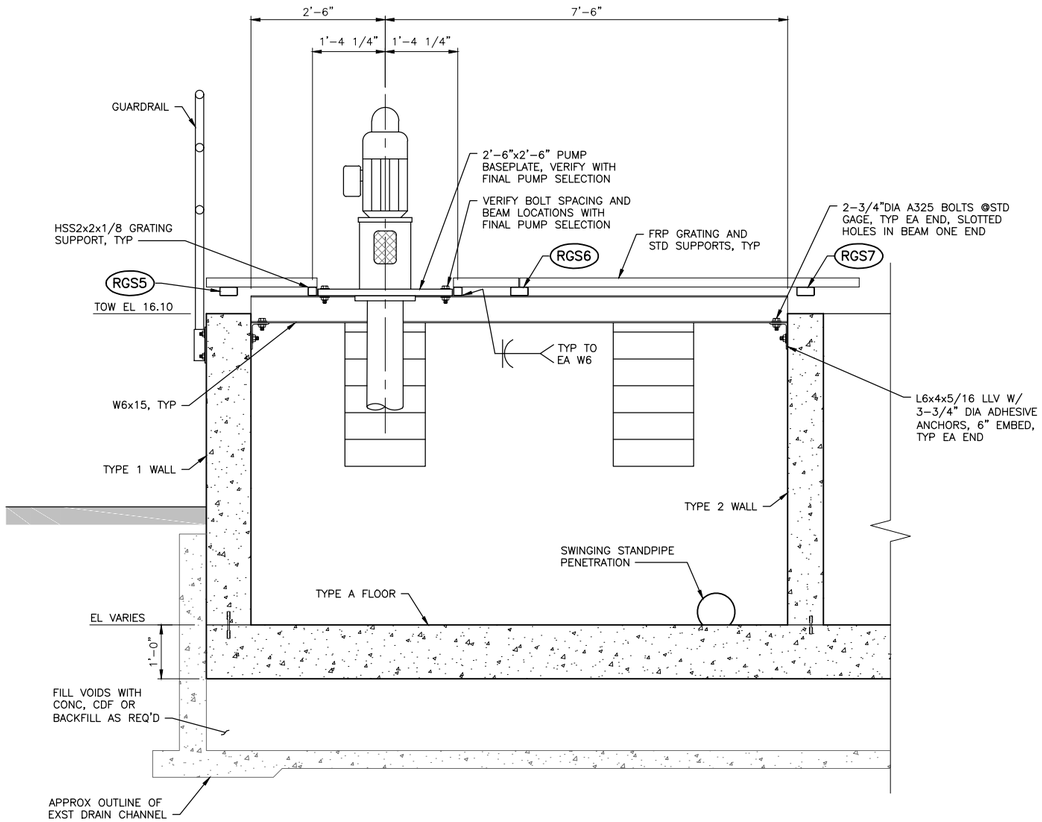
HOODSPORT HATCHERY
REARING POND REPLACEMENT
RACEWAY SECTIONS

PROJECT NO. MN:H23:16-1

SHEET 32 OF

4/28/2017 10:09:26 AM - P:\15891\200-15891-17001\CAD\SHEETFILES\H02316I0032.DWG - MAAS, RYAN



SECTION A
SCALE: 3/4" = 1'-0"
29 | 33

LEGEND

- RG# — GUIDES, SEE SHEET 35, 36, 37, & 38
- RGS# — GRATING SUPPORT, SEE SHEETS 39, 40, 41 & 42
- RSL# — STOP LOG, SEE SHEET 46

0 1'-4" 2'-8"
0 2'-0" 4'-0"
SCALE: 3/4" = 1'-0"

SHEET NUMBER
S1.7

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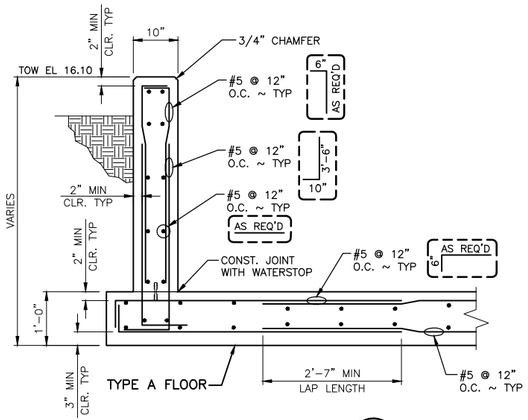
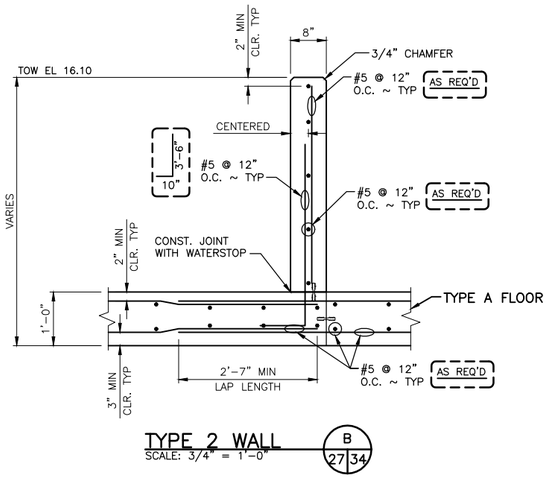
HOODSPORT HATCHERY
REARING POND REPLACEMENT
RACEWAY SECTIONS

PROJECT NO.
MN:H23:16-1

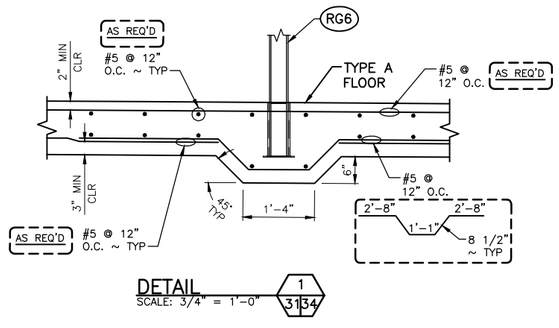
SHEET 33 OF



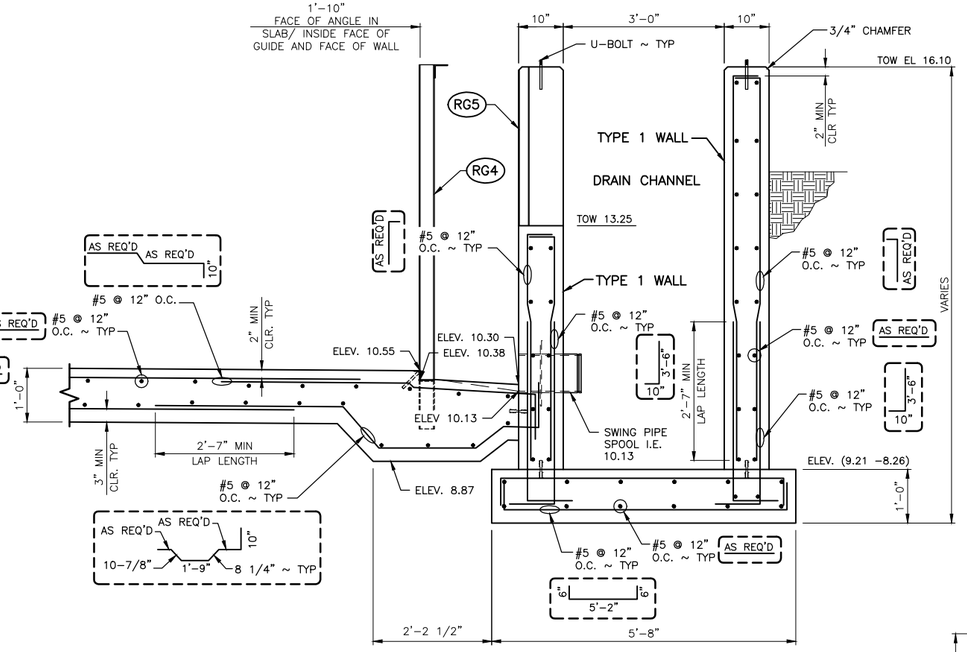
TYPE 1 WALL
SCALE: 3/4" = 1'-0"
A 27|34



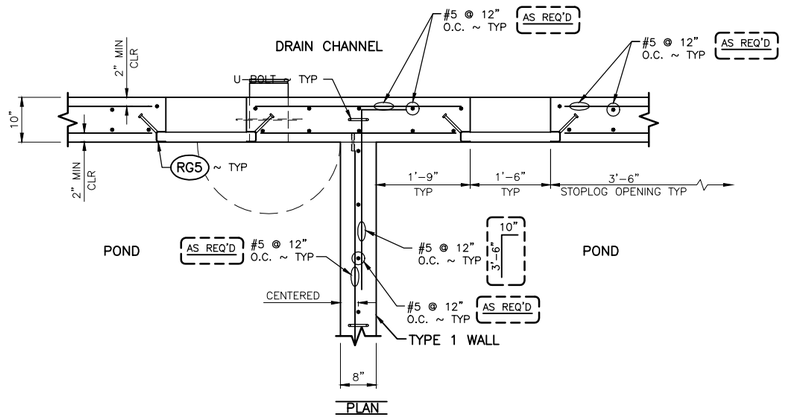
TYPE 2 WALL
SCALE: 3/4" = 1'-0"
B 27|34



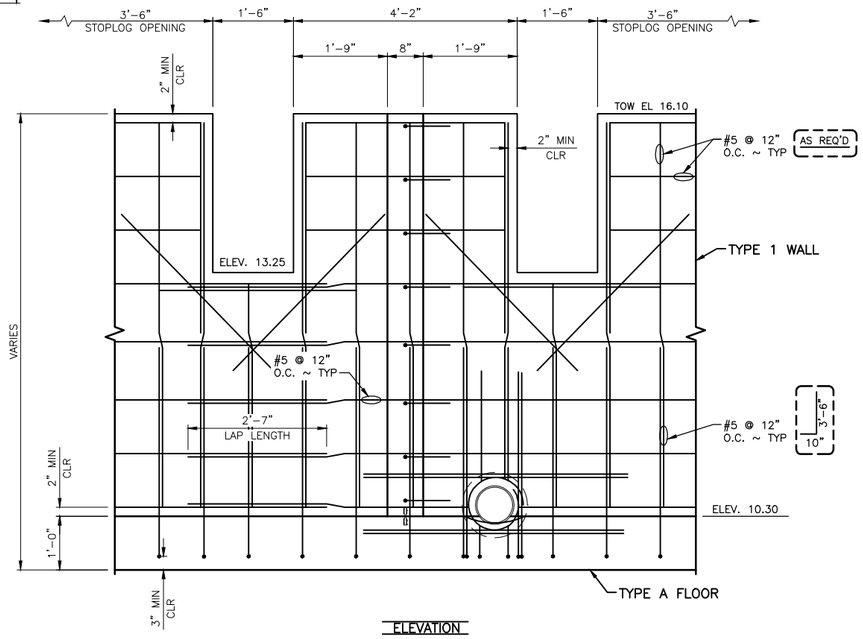
DETAIL
SCALE: 3/4" = 1'-0"
1 31|34



SECTION
SCALE: 3/4" = 1'-0"
C 30|34 C 32|34



PLAN



ELEVATION

DETAIL
SCALE: 3/4" = 1'-0"
2 27|34

LEGEND

RG#	GUIDES, SEE SHEET 35, 36, 37, & 38
RGS#	GRATING SUPPORT, SEE SHEETS 39, 40, 41 & 42
RSL#	STOP LOG, SEE SHEET 46

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HOODSPORT HATCHERY
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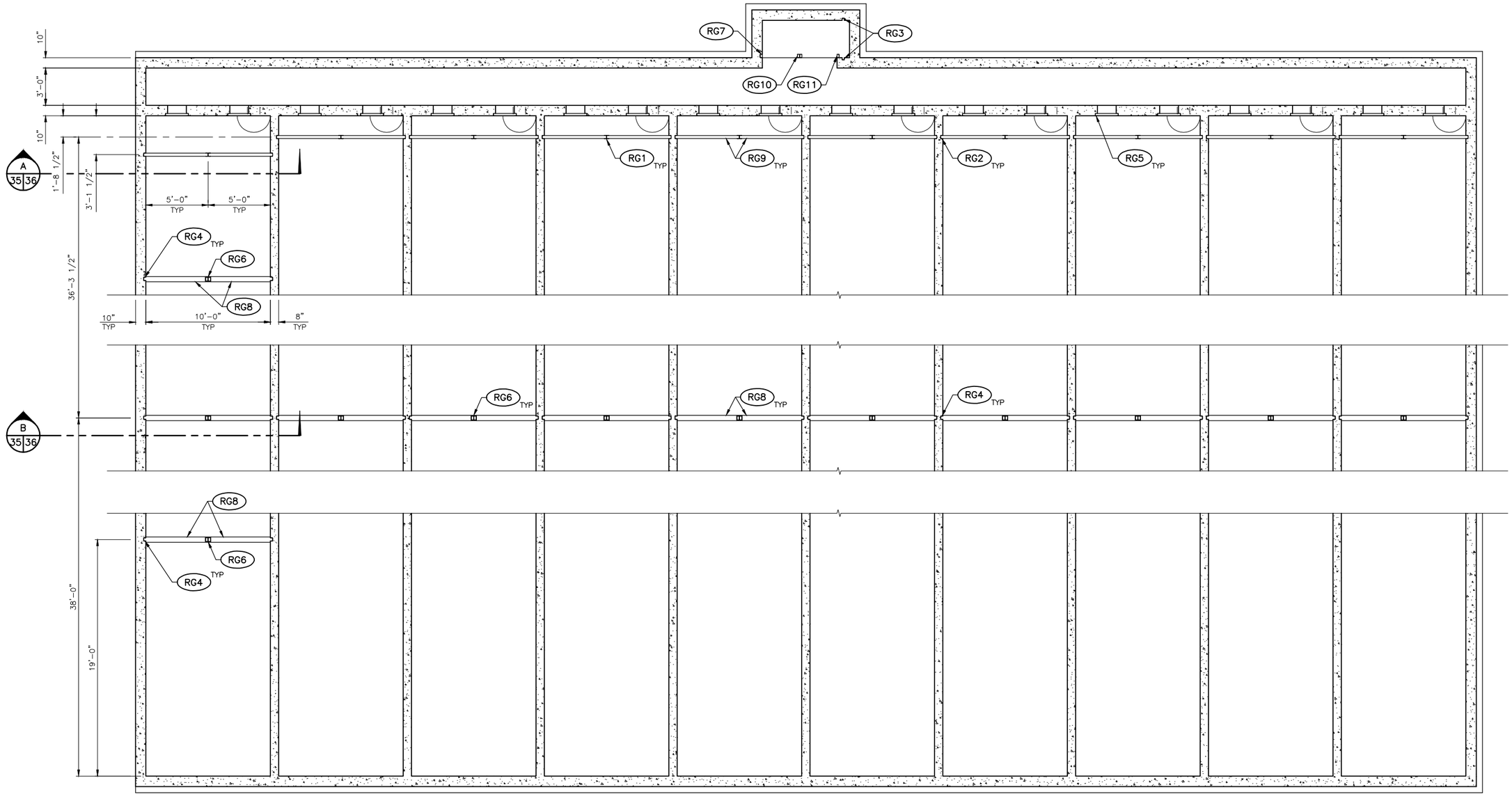
RACEWAY REINFORCEMENT DETAILS

SHEET NUMBER S1.8
PROJECT NO. MN:H23:16-1
SHEET 34 OF

4/28/2017 10:10:21 AM - P:\1589\1200-15891-17001\CAD\SHEETFILES\H23161C034.DWG - MAAS, RYAN



GUIDE PLAN
SCALE: 1/4" = 1'-0"

LEGEND

- RG# — GUIDES, SEE SHEET 35, 36, 37, & 38
- RGS# — GRATING SUPPORT, SEE SHEETS 39, 40, 41 & 42
- RSL# — STOP LOG, SEE SHEET 44

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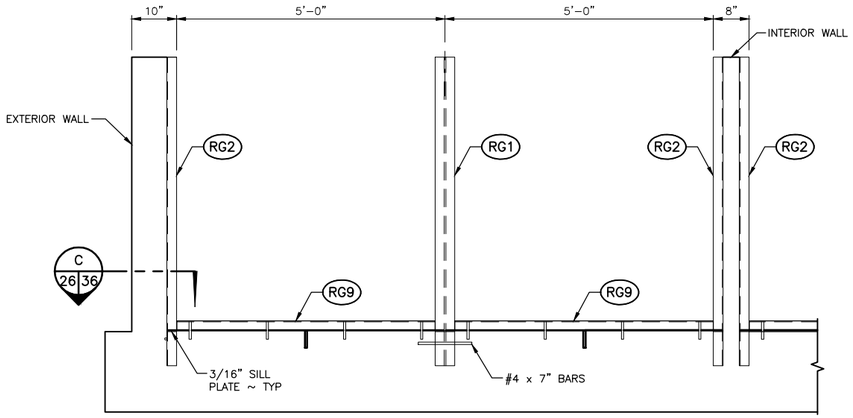
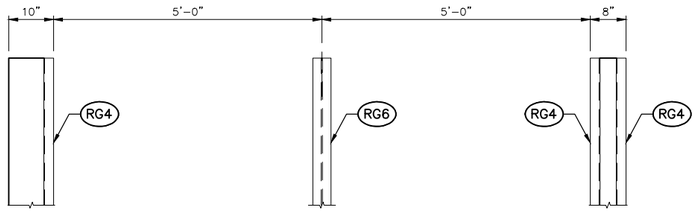
HOODSPORT HATCHERY
REARING POND REPLACEMENT
RACEWAY GUIDE PLANS

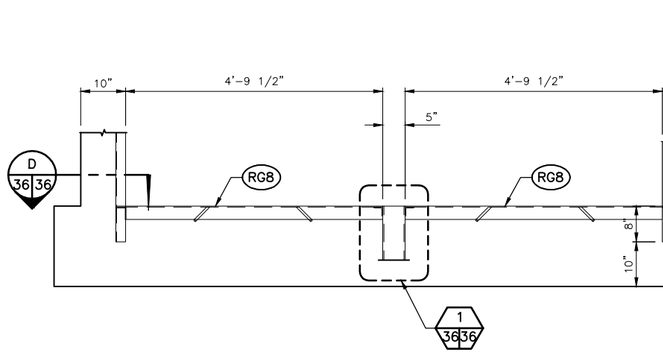
SHEET NUMBER S1.9
PROJECT NO. MN:H23:16-1
SHEET 35 OF



SCREEN GUIDE ASSEMBLY (A 35|36)
SCALE: 3/4" = 1'-0"

NOTE:
1. INSTALL SCREEN GUIDES & SILL UNIT BEFORE POUTING FLOOR
2. WALL & SLAB REINFORCEMENT NO SHOWN

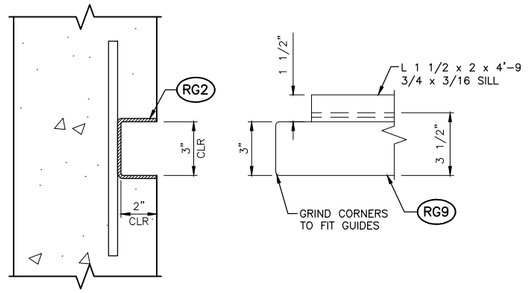




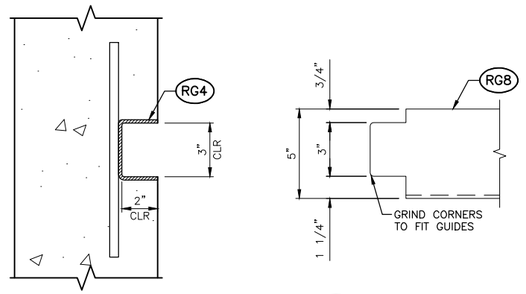
ELEVATION

REMOVABLE SCREEN GUIDE ASSEMBLY (B 35|36)
SCALE: 3/4" = 1'-0"

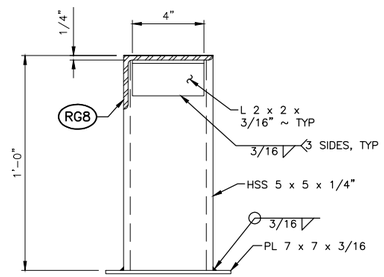
NOTE:
1. INSTALL SCREEN GUIDES & SILL UNIT BEFORE POURING FLOOR
2. WALL & SLAB REINFORCEMENT NO SHOWN



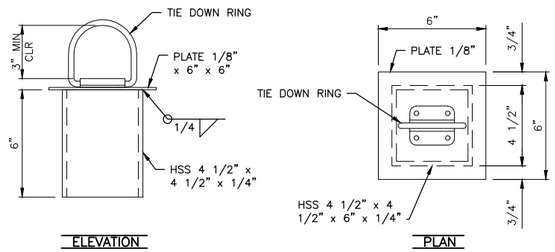
SECTION (C 36|36)
SCALE: 3" = 1'-0"



SECTION (D 36|36)
SCALE: 3" = 1'-0"

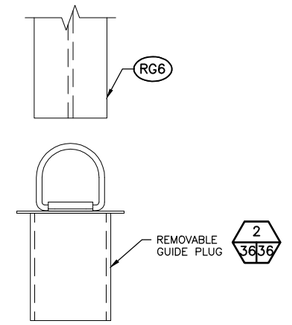


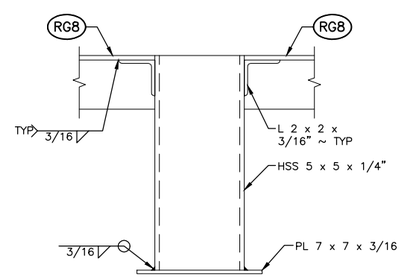
SECTION (E 36|36)
SCALE: 3" = 1'-0"



ELEVATION PLAN

REMOVABLE GUIDE PLUG (2 36|36)
SCALE: 3" = 1'-0"





DETAIL (1 36|36)
SCALE: 3" = 1'-0"

LEGEND

RG# GUIDES, SEE SHEET 35, 36, 37, & 38

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CHECKED BY HRN
DRAWN BY RWM
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HOODSPORT HATCHERY
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RACEWAY
SCREEN GUIDE ASSEMBLIES

SHEET NUMBER
S1.10
PROJECT NO.
MN:H23:16-1
SHEET 36
OF

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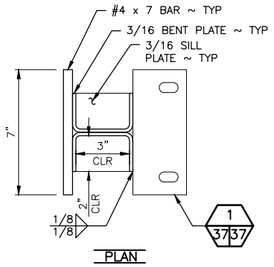
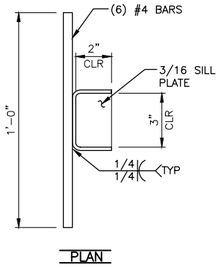
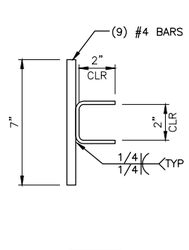


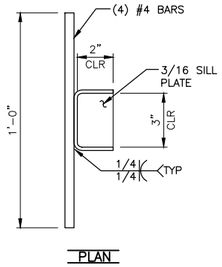
PLAN
SCALE: 3" = 1'-0"



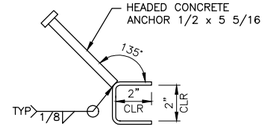
PLAN
SCALE: 3" = 1'-0"



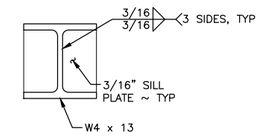
PLAN
SCALE: 3" = 1'-0"



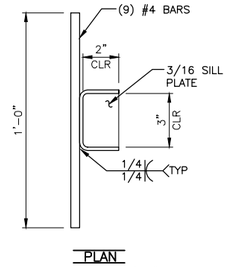
PLAN
SCALE: 3" = 1'-0"



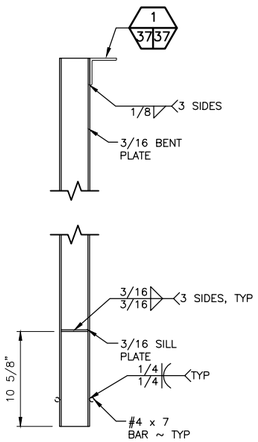
PLAN
SCALE: 3" = 1'-0"



PLAN
SCALE: 3" = 1'-0"

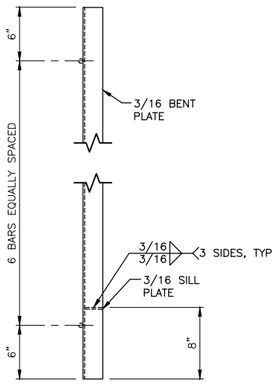


PLAN
SCALE: 3" = 1'-0"



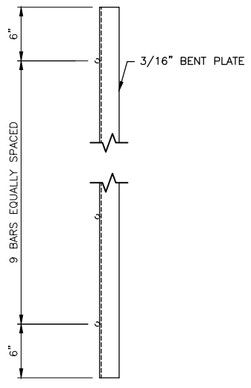
FRONT

GUIDE DETAIL RG1
SCALE: 1 1/2" = 1'-0"



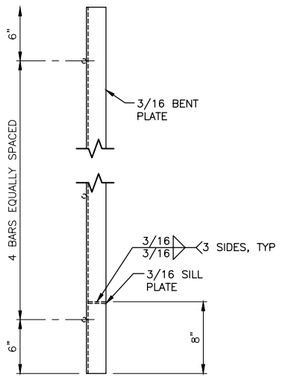
FRONT

GUIDE DETAIL RG2
SCALE: 1 1/2" = 1'-0"



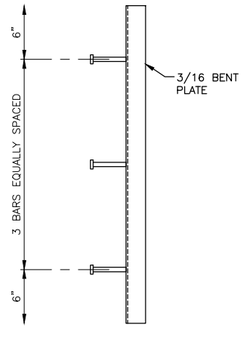
FRONT

GUIDE DETAIL RG3
SCALE: 1 1/2" = 1'-0"



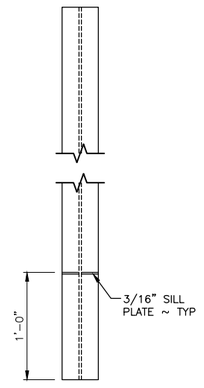
FRONT

GUIDE DETAIL RG4
SCALE: 1 1/2" = 1'-0"



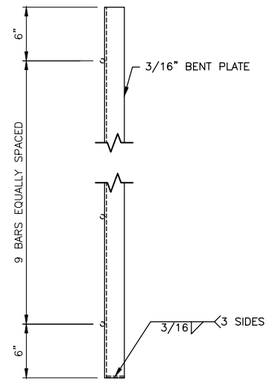
FRONT

GUIDE DETAIL RG5
SCALE: 1 1/2" = 1'-0"



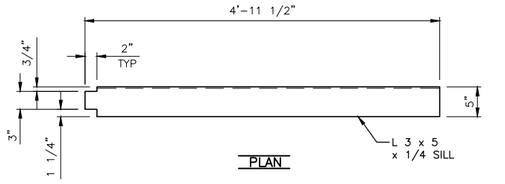
FRONT

GUIDE DETAIL RG6
SCALE: 1 1/2" = 1'-0"

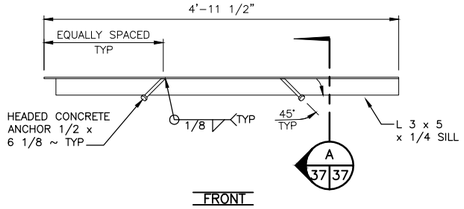


FRONT

GUIDE DETAIL RG7
SCALE: 1 1/2" = 1'-0"

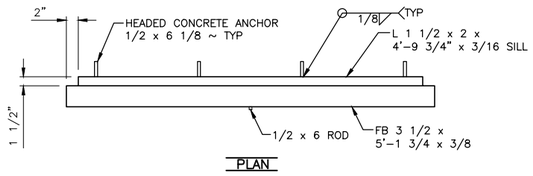


PLAN

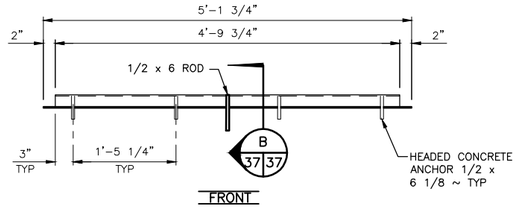


FRONT

GUIDE DETAIL RG8
SCALE: 1" = 1'-0"

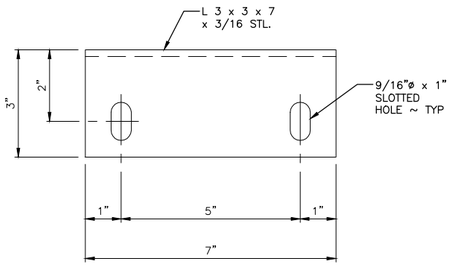


PLAN

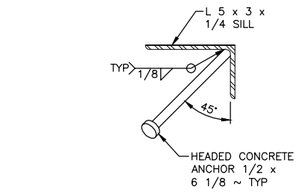


FRONT

GUIDE DETAIL RG9
SCALE: 1" = 1'-0"



SCALE: 6" = 1'-0"



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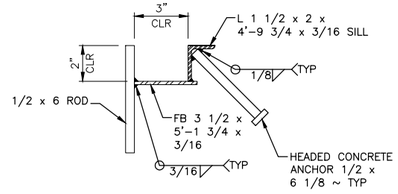

SCALE: 3" = 1'-0"

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SYM	DATE	REVISION DESCRIPTION	BY

APPROVED AND RELEASED FOR CONSTRUCTION

CHIEF ENGINEER ..... DATE: .....

PROGRAM ..... DATE: .....

NOT FOR CONSTRUCTION

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BAR MEASURES ONE INCH ON ORIGINAL DRAWINGS

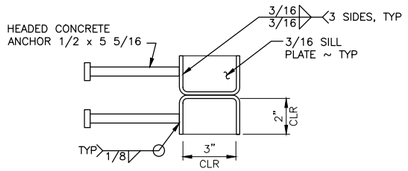
DESIGNED BY RWM
CHECKED BY HRN
DRAWN BY RWM
DATE APR 2017

HOODSPORT HATCHERY
REARING POND REPLACEMENT
RACEWAY
GUIDE DETAILS & SECTIONS

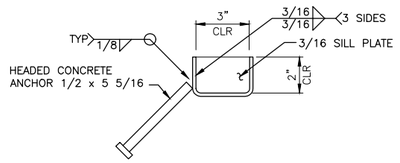
SHEET NUMBER
S1.11

PROJECT NO.
MN:H23:16-1

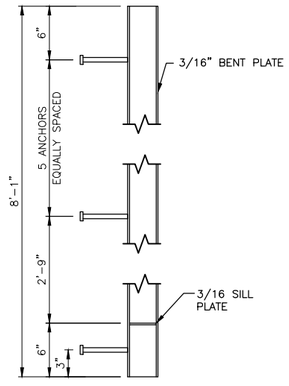
SHEET 37 OF



PLAN
SCALE: 3" = 1'-0"

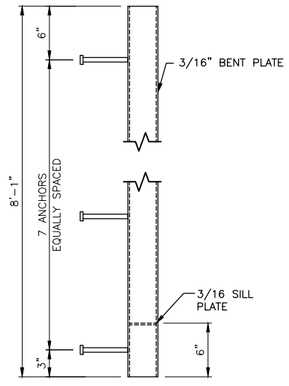


PLAN
SCALE: 3" = 1'-0"



FRONT

GUIDE DETAIL RG10
SCALE: 1 1/2" = 1'-0"



FRONT

GUIDE DETAIL RG11
SCALE: 1 1/2" = 1'-0"

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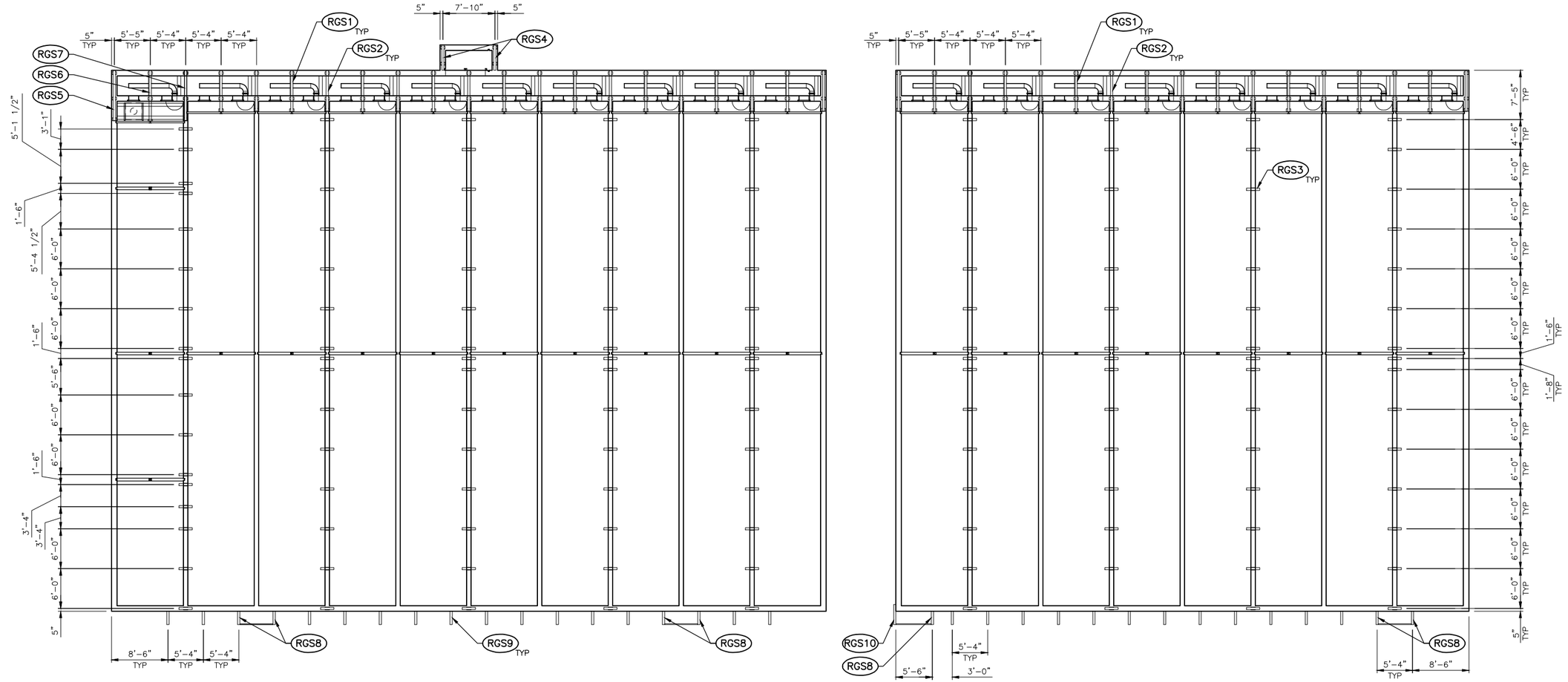
HOODSPORT HATCHERY
REARING POND REPLACEMENT
RACEWAY
GUIDE DETAILS & SECTIONS

SHEET NUMBER
S1.12
PROJECT NO.
MN:H23:16-1
SHEET 38
OF

4/28/2017 10:12:24 AM - P:\15891\200-15891-17001\CAD\SHEETFILES\H023161C038.DWG - MAAS, RYAN



GRATING SUPPORT PLAN

SCALE: 1/8" = 1'-0"

LEGEND

- RG# — GUIDES, SEE SHEET 35, 36, 37, & 38
- RGS# — GRATING SUPPORT, SEE SHEETS 39, 40, 41 & 42
- RSL# — STOP LOG, SEE SHEET 44

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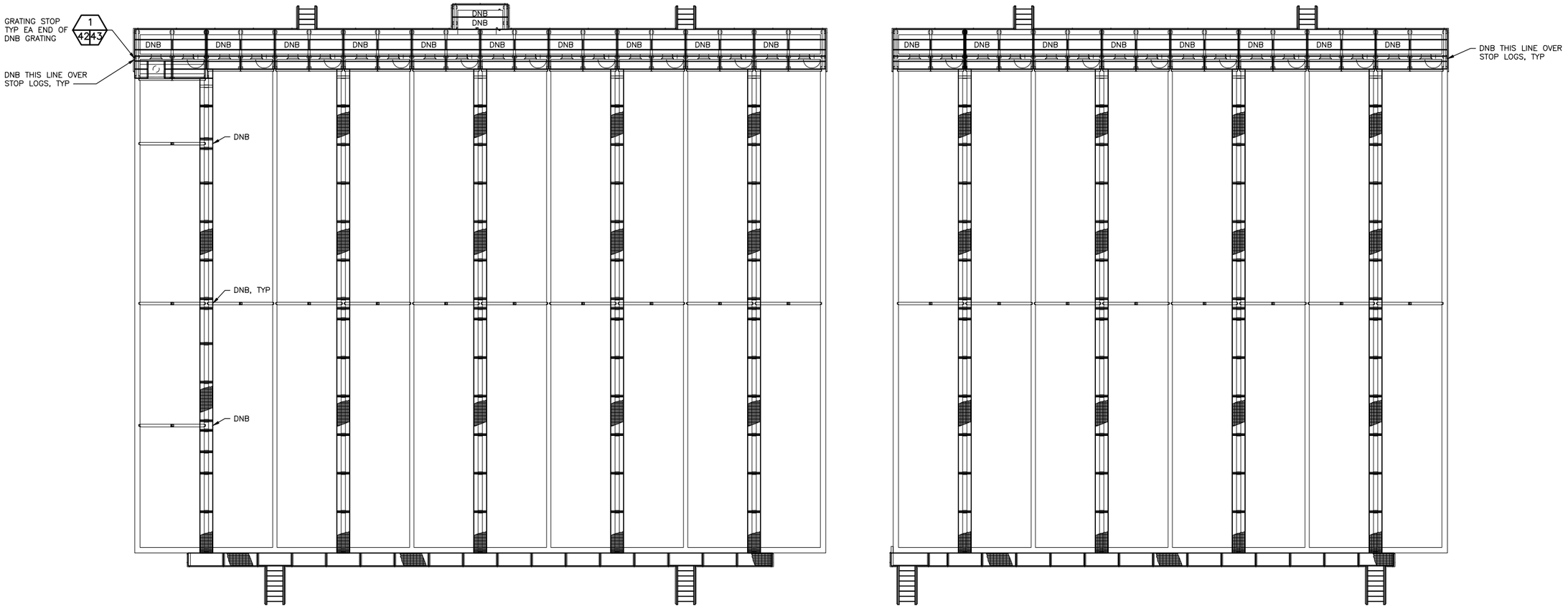
HOODSPORT HATCHERY
REARING POND REPLACEMENT
RACEWAY GRATING SUPPORT PLANS

SHEET NUMBER S1.13
PROJECT NO. MN:H23:16-1
SHEET 39 OF

GRATING (SPECIFICATION)			
MARK	TYPE	SUPPORT	SPECIFICATIONS
ALL	FRP	AS DETAILED	GRATING SHALL BE 2" DEEP T-5020 FRP GRATING



GRATING PLAN
SCALE: 1/4" = 1'-0"

LEGEND

DNB DO NOT BOLT GRATING AT LOCATION SHOWN

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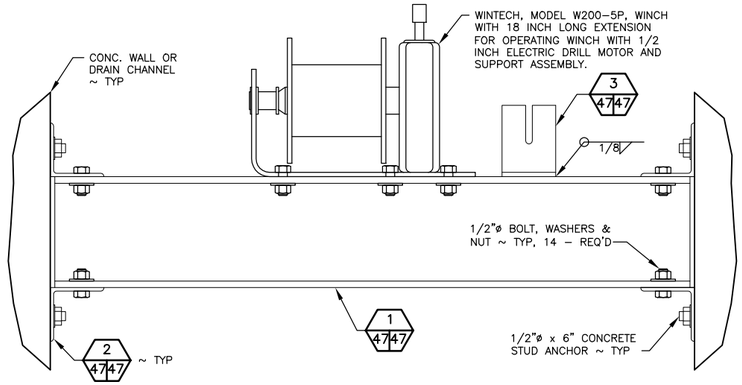
HOODSPORT HATCHERY
REARING POND REPLACEMENT
RACEWAY GRATING PLANS

SHEET NUMBER
S1.16

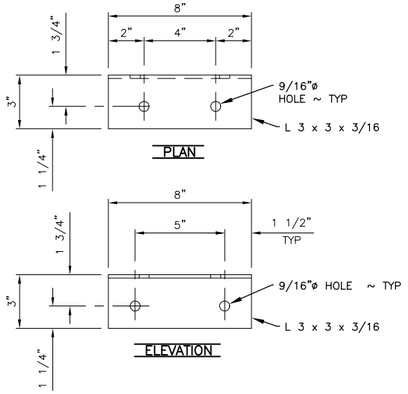
PROJECT NO.
MN:H23:16-1

SHEET 42 OF

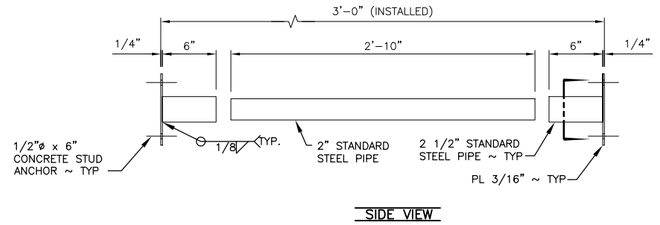
4/28/2017 10:13:17 AM - P:\15891\200-15891-17001\CAD\SHEETFILES\H023161G042.DWG - MAAS, RYAN

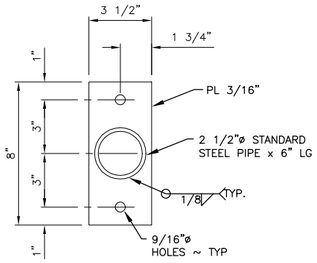


WINCH ASSEMBLY
SCALE: 3" = 1'-0"

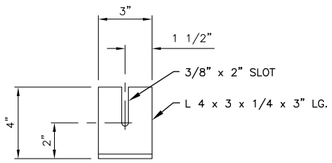


WINCH SUPPORT LEDGER 2 4747
SCALE: 3" = 1'-0"
4 PER WINCH ASSEMBLY

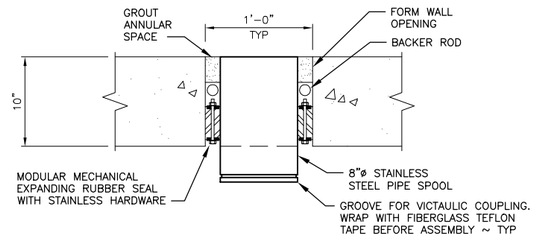




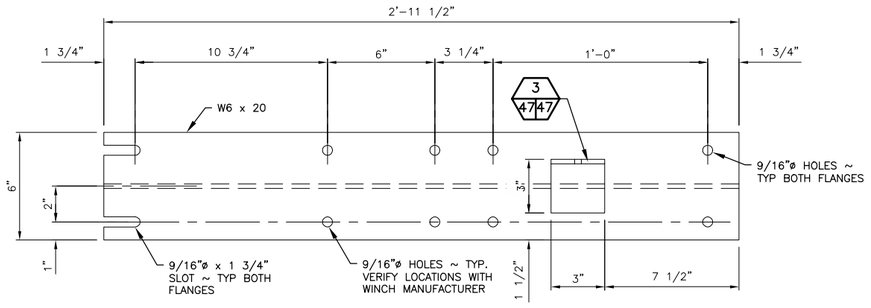
STANDPIPE STOP ASSEMBLY
SCALE: 1 1/2" = 1'-0"
1 PER WINCH ASSEMBLY



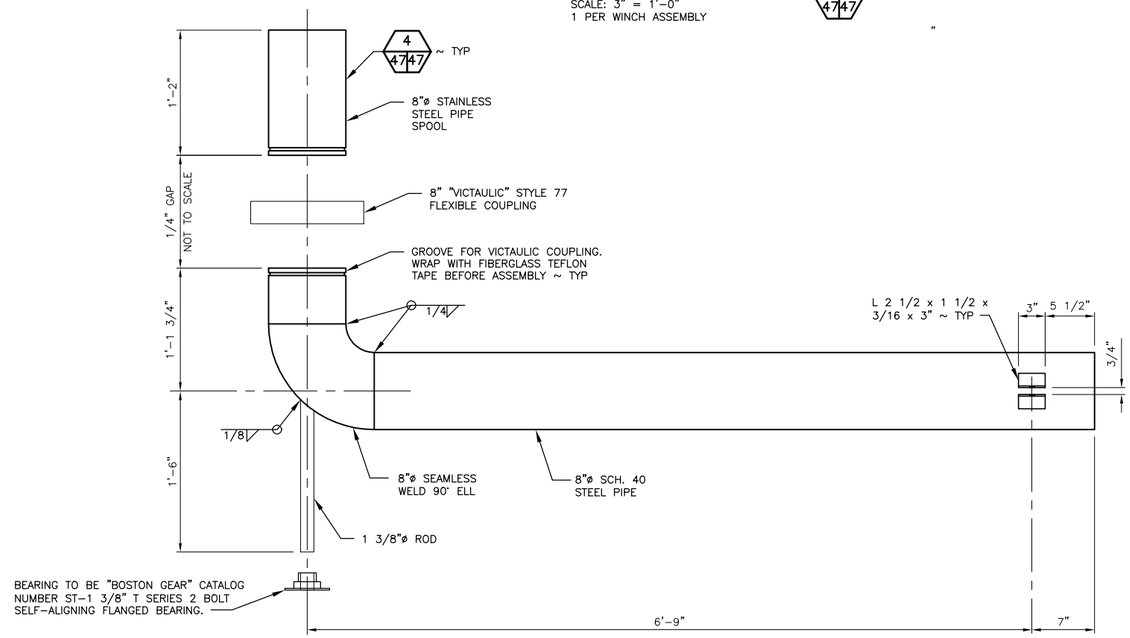
SAFETY CHAIN CATCH 3 4747
SCALE: 3" = 1'-0"
1 PER WINCH ASSEMBLY

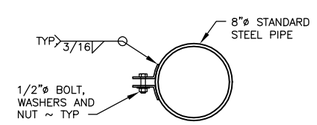


DETAIL 4 4747
SCALE: 1 1/2" = 1'-0"



WINCH SUPPORT 1 4747
SCALE: 3" = 1'-0"
1 PER WINCH ASSEMBLY





SWINGING STANDPIPE ASSEMBLY
SCALE: 1 1/2" = 1'-0"
1 PER POND

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HOODSPORT HATCHERY

REARING POND REPLACEMENT

WINCH & STANDPIPE ASSEMBLIES

SHEET NUMBER S1.21

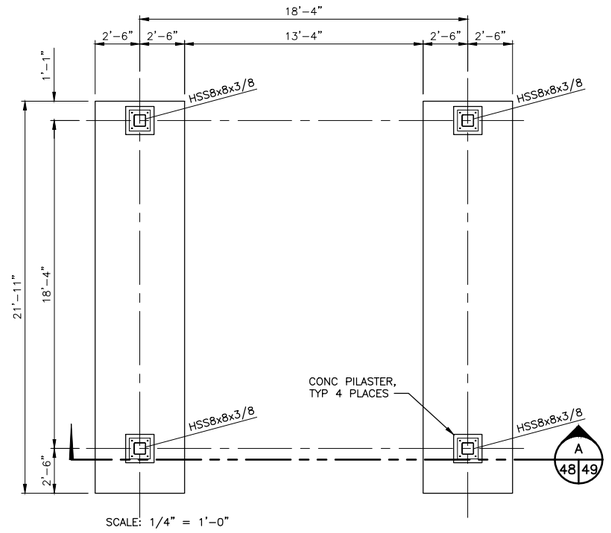
PROJECT NO. MN:H23:16-1

SHEET 47 OF

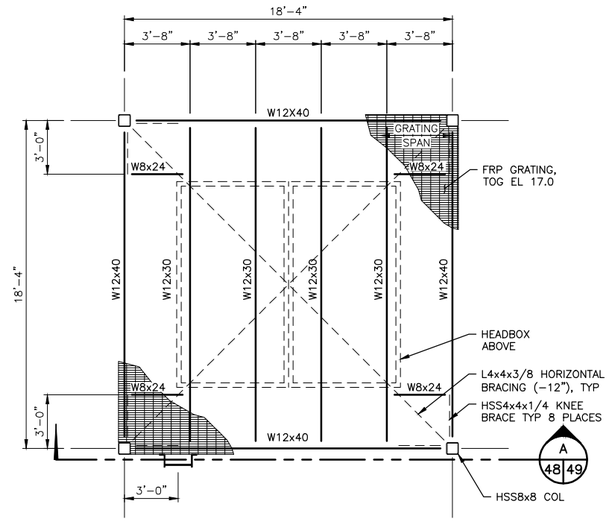
5/4/2017 12:53:08 PM - P:\15891\200-15891-17001\CAD\SHEETFILES\H02316\C047.DWG - NORDHOLM, ERIK

NOTE:

1. SEE NOTE M2 ON DRAWING 24 FOR MATERIAL OF TOWER.

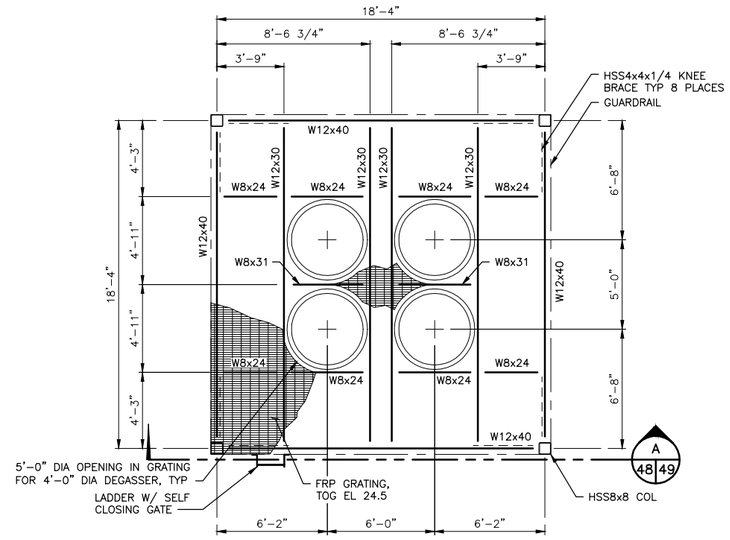


AERATION HEADBOX FOUNDATION PLAN



AERATION HEADBOX PLAN AT EL 17.0

SCALE: 1/4" = 1'-0"



AERATION HEADBOX PLAN AT EL 24.5

SCALE: 1/4" = 1'-0"

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DATE APR 2017

HOODSPORT HATCHERY

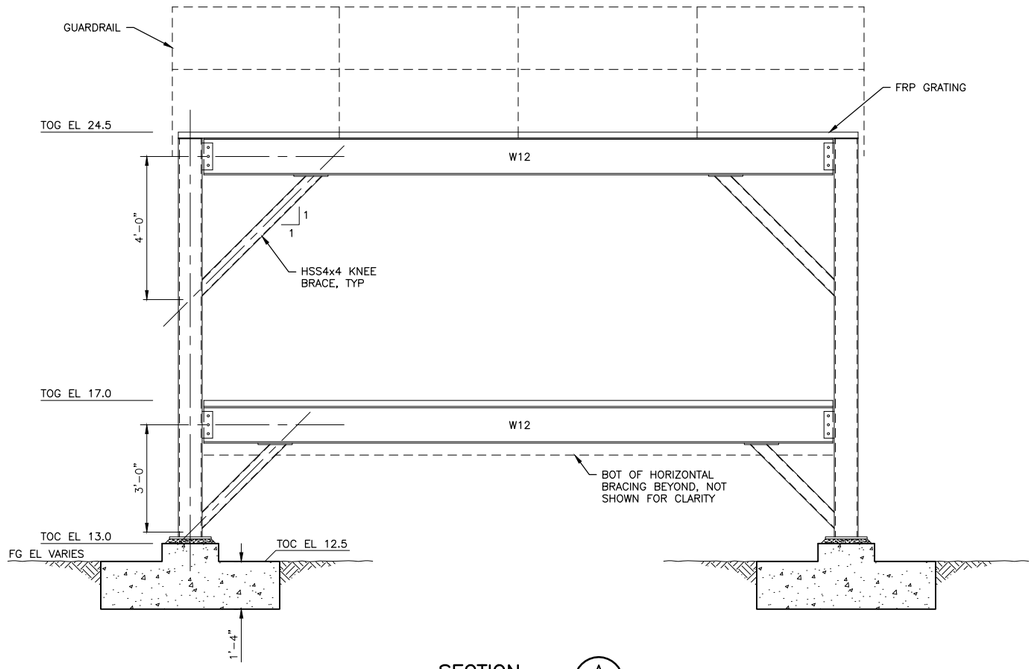
REARING POND REPLACEMENT

AERATION HEADBOX PLANS

SHEET NUMBER S2.1

PROJECT NO. MN:H23:16-1

SHEET 48 OF



SECTION A 48|49
SCALE: 1/2" = 1'-0"

SHEET NUMBER S2.2

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HOODSPORT HATCHERY
REARING POND REPLACEMENT
AERATION HEADBOX SECTIONS

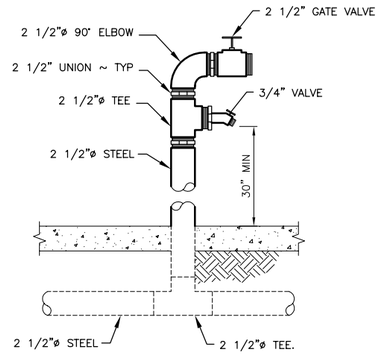
PROJECT NO. MN:H23:16-1

SHEET 49 OF

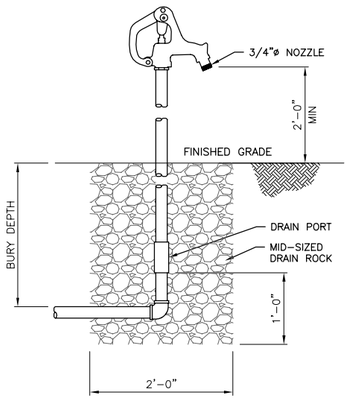
4/28/2017 10:14:41 AM – P:\15891\200-15891-17001\CAD\SHEETFILES\H023161C049.DWG – MAAS, RYAN

PIPE SCHEDULE

PIPE ID	FUNCTION	SERVICE	PIPE MATERIAL (UNLESS NOTE OTHERWISE)	JOINTS / FITTINGS
CWW	CLEANING WASTEWATER	ALL	STEEL ASTM A53, STD WALL, GALVANIZED	2 1/2" AND SMALLER: THREADED 3" AND LARGER: FLANGED
FW	FRESH WATER	BURIED	C900/C905 PVC, DR 25	BELL & SPIGOT PIPE JOINTS / DUCTILE IRON MJ (RESTRAINED) FITTINGS
		EXPOSED	STEEL ASTM A53 STD WALL, PLASCOAT LINING/COATING	SHOP WELDED OR FLANGED IN FIELD / ASME B16.9 STEEL FITTINGS
HD	HATCHERY DRAIN	DRAIN ONLY	C900/C905 PVC, DR 25	BELL & SPIGOT PIPE JOINTS / DUCTILE IRON PUSH-ON OR MJ FITTINGS
		FISH TRANSFER	HDPE IPS DR 17, ASTM F714, PE 4710	THERMAL BUTT FUSION OR FLANGED / D3261 HDPE FITTINGS. (REMOVE INTERNAL WELDING BEADS)
RU	RE-USE	BURIED	C900/C905 PVC, DR 25	BELL & SPIGOT PIPE JOINTS / DUCTILE IRON MJ (RESTRAINED) FITTINGS
		EXPOSED STEEL	STEEL ASTM A53 STD WALL, PLASCOAT LINING/COATING	SHOP WELDED OR FLANGED IN FIELD / ASME B16.9 STEEL FITTINGS
		EXPOSED PVC	SCH 80, FIELD PAINTED	SOLVENT WELD OR FLANGED / SCH 80 FITTINGS
SW	SALTWATER	BURIED	C900/C905 PVC, DR 25	BELL & SPIGOT PIPE JOINTS / DUCTILE IRON MJ (RESTRAINED) FITTINGS
		EXPOSED STEEL	STEEL ASTM A53 STD WALL, PLASCOAT LINING/COATING	SHOP WELDED OR FLANGED IN FIELD / ASME B16.9 STEEL FITTINGS
		EXPOSED PVC	SCH 80, FIELD PAINTED	SOLVENT WELD OR FLANGED / SCH 80 FITTINGS
WD	WASH DOWN	ALL	STEEL, STD WALL, GALVANIZED	2 1/2" AND SMALLER: THREADED 3" AND LARGER: BUTT WELDED OR FLANGED



WASH DOWN HYDRANT (M1 / 51)
NOT TO SCALE



FROSTPROOF HYDRANT (M2 / 51)
NOT TO SCALE

ABBREVIATIONS

ALUM	–	ALUMINUM
L	–	ANGLE
APPROX	–	APPROXIMATELY
BM	–	BENCH MARK
CL	–	CENTERLINE
CMP	–	CORRUGATED METAL PIPE
CLR	–	CLEARANCE
CONC	–	CONCRETE
CSBC	–	CRUSHED SURFACE BASE COURSE
CSTC	–	CRUSHED SURFACE TOP COURSE
DIA	–	DIAMETER
ELEV	–	ELEVATION
FB	–	FLAT BAR
FTG	–	FOOTING
GALV	–	GALVANIZED
ID	–	INSIDE DIAMETER
IE	–	INVERT ELEVATION
MFG	–	MANUFACTURER'S
MISC	–	MISCELLANEOUS
OC	–	ON CENTER
OD	–	OUTSIDE DIAMETER
PL	–	PLATE
REQ'D	–	REQUIRED
SEC	–	SECTION
SPEC'S	–	PROJECT SPECIFICATIONS
SS	–	STAINLESS STEEL
TYP	–	TYPICAL
WS	–	WATER SURFACE

MECHANICAL SYMBOLS

STANDARD MECHANICAL DETAIL

SHEET NUMBER M0.1

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HOODSPORT HATCHERY
REARING POND REPLACEMENT
PIPE SCHEDULE, ABBREVIATIONS & TYPICAL DETAILS

PROJECT NO. MN:H23:16–1

SHEET 51 OF

INCUBATION PUMP 1/5457

INSTALL OVER/UNDER GATE IN GUIDE SLOTS

24"RU

24"HD

2.5"WD

CLEANING WASTE CONNECTION (TYP)

CLEANING WASTE PIPING (TYP) 1/5456

27'-2" (TYP)

25'-2" (TYP)

18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1

24"FW

WD

SALTWATER RISER, TYP RACEWAYS 15-18 2/5457

M1/-52 WASHDOWN HYDRANT (TYP)

2.5"WD

POND 14 UPWELL SUPPLY VAULT 1/5458

1/5455

POLLUTION ABATEMENT PONDS

2/5458

SALTWATER PUMP SUMP

AERATION HEADBOX. SEE SHEET 59

POND 14

RACEWAY PLAN
SCALE: 1/8" = 1'-0"

N

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REARING POND REPLACEMENT

RACEWAYS PLAN

SHEET NUMBER
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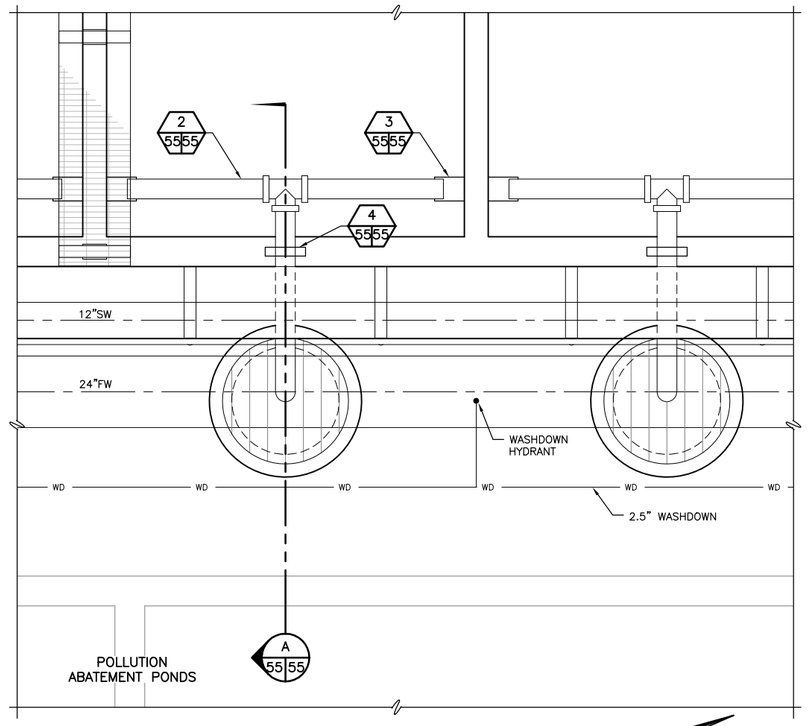
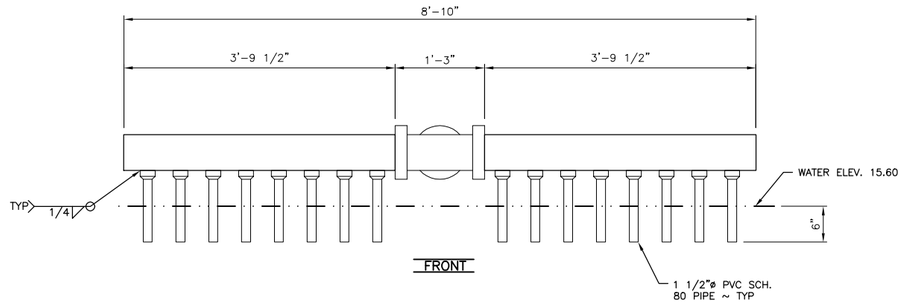
PROJECT NO.
MN:H23:16-1

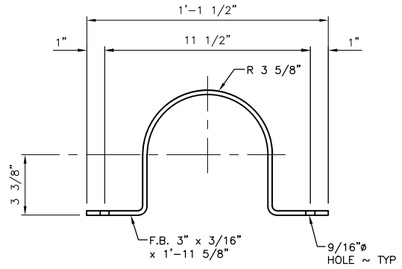
SHEET 54 OF



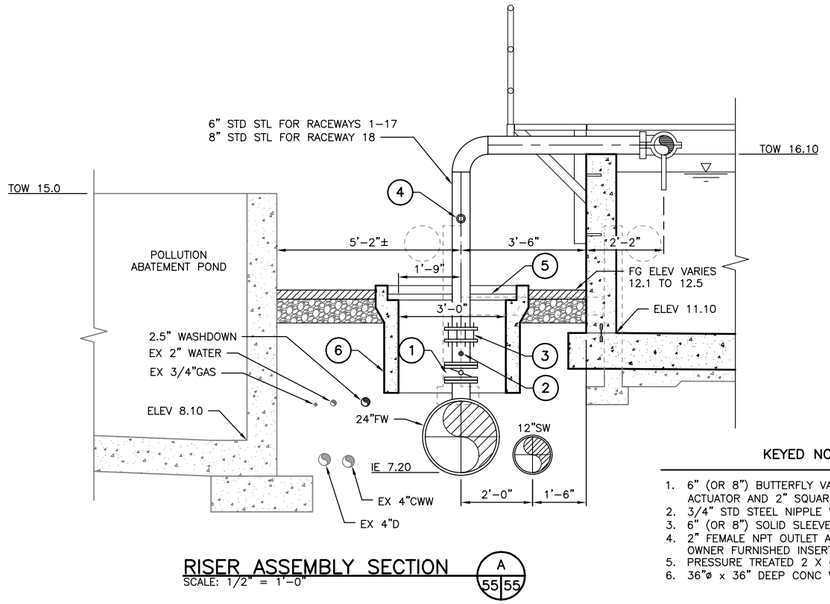
RISER ASSEMBLY PLAN (1 / 5455)
SCALE: 1/2" = 1'-0"



SUPPLY MANIFOLD (2 / 5555)
SCALE: 1" = 1'-0"



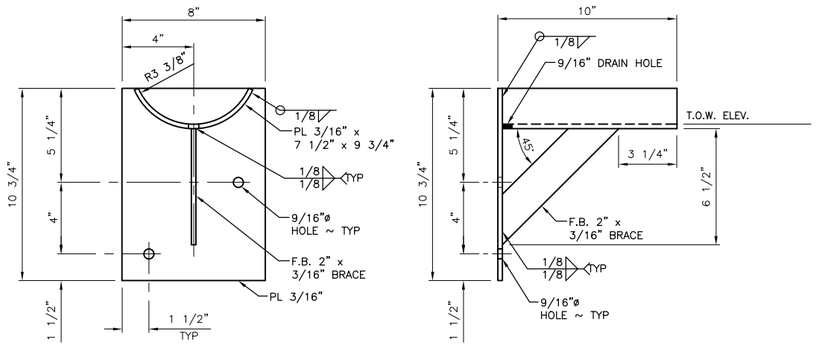
RISER BRACKET (4 / 5555)
SCALE: 3" = 1'-0"



RISER ASSEMBLY SECTION (A / 5555)
SCALE: 1/2" = 1'-0"

KEYED NOTES (#)

1. 6" (OR 8") BUTTERFLY VALVE W/ WORM GEAR ACTUATOR AND 2" SQUARE NUT OPERATOR
2. 3/4" STD STEEL NIPPLE WITH 3/4" BALL VALVE
3. 6" (OR 8") SOLID SLEEVE FLEX CPLG
4. 2" FEMALE NPT OUTLET AND BALL VALVE FOR OWNER FURNISHED INSERTION FLOW METER
5. PRESSURE TREATED 2 X 6 COVER
6. 36"ø x 36" DEEP CONC VALVE BOX



MANIFOLD SUPPORT (3 / 5555)
SCALE: 3" = 1'-0"

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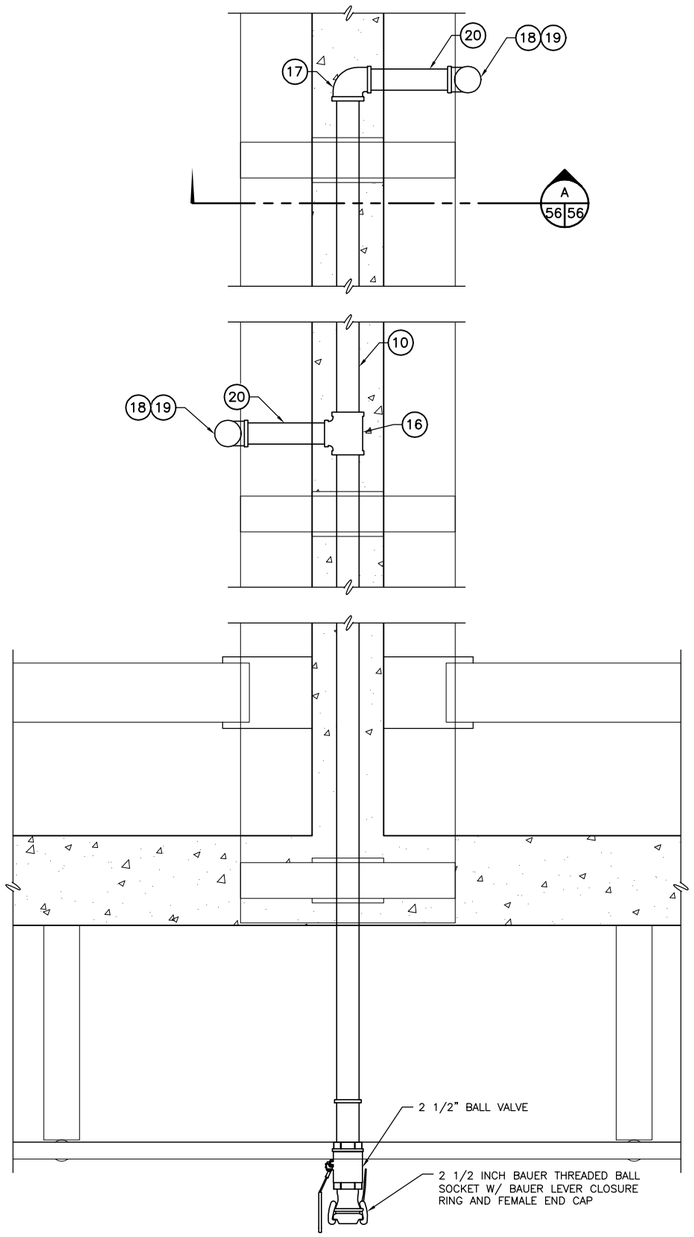
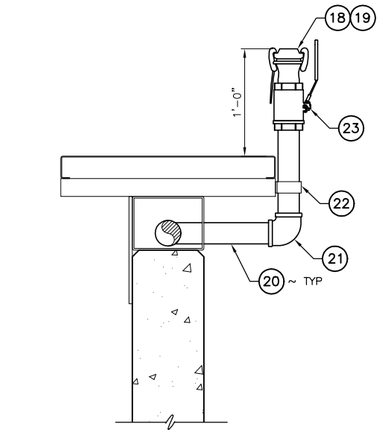
REARING POND REPLACEMENT
RACEWAYS SECTION AND DETAILS

SHEET NUMBER M1.2
PROJECT NO. MN:H23:16-1
SHEET 55 OF



CLEANING WASTE PIPE PLAN 1
SCALE: 1 1/2" = 1'-0"



SECTION A 56 56
SCALE: 1 1/2" = 1'-0"

PARTS LIST

10. 2 1/2 INCH DIAMETER STANDARD STEEL PIPE
16. 2 1/2 x 2 1/2 x 2 INCH DIAMETER STANDARD STEEL TEE
17. 2 1/2 x 2 INCH DIAMETER STANDARD STEEL 90 DEGREE ELBOW
18. 2 INCH DIAMETER BAUER THREADED BALL SOCKET WITH BAUER LEVER CLOSURE RING
19. BAUER FEMALE END CAP
20. 2 INCH DIAMETER STANDARD STEEL PIPE
21. 2 INCH DIAMETER STANDARD STEEL 90 DEGREE ELBOW.
22. 2 INCH DIAMETER PIPE CLAMP
23. 2 INCH BALL VALVE

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RACEWAYS SECTIONS AND DETAILS

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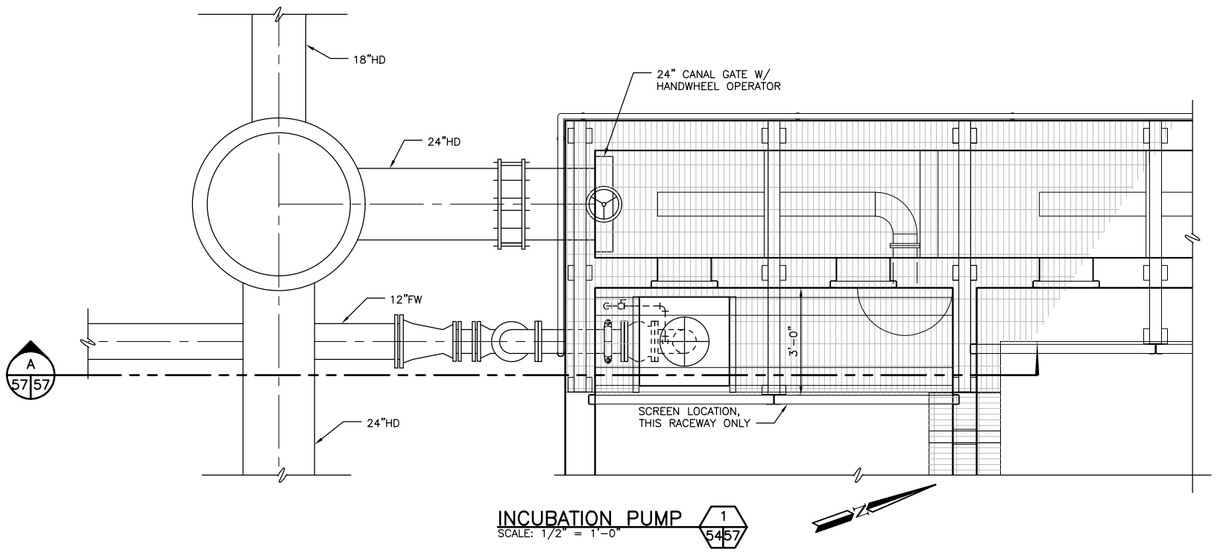
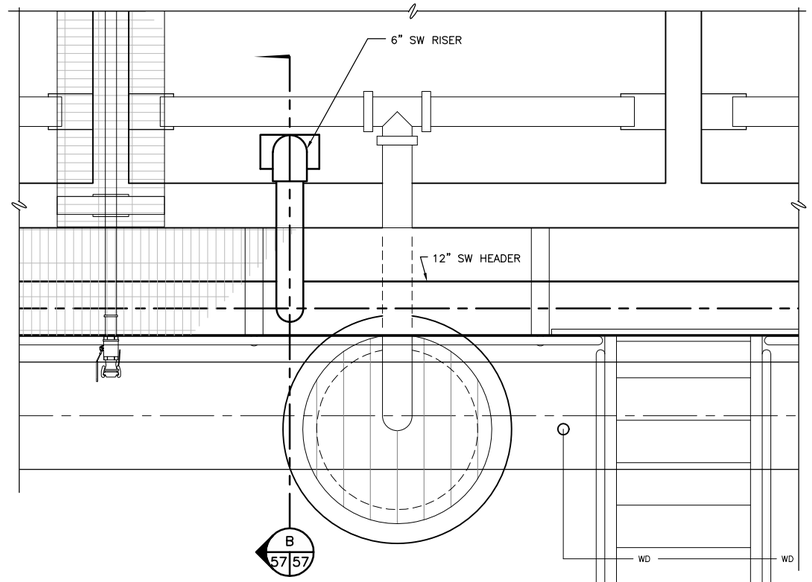
PROJECT NO. MN:H23:16-1
SHEET 56
OF

5/1/2017 7:43:32 PM - P:\15891\200-15891-17001\CAD\SHEETFILES\H023161C056.DWG - NORDHOLM, ERIK

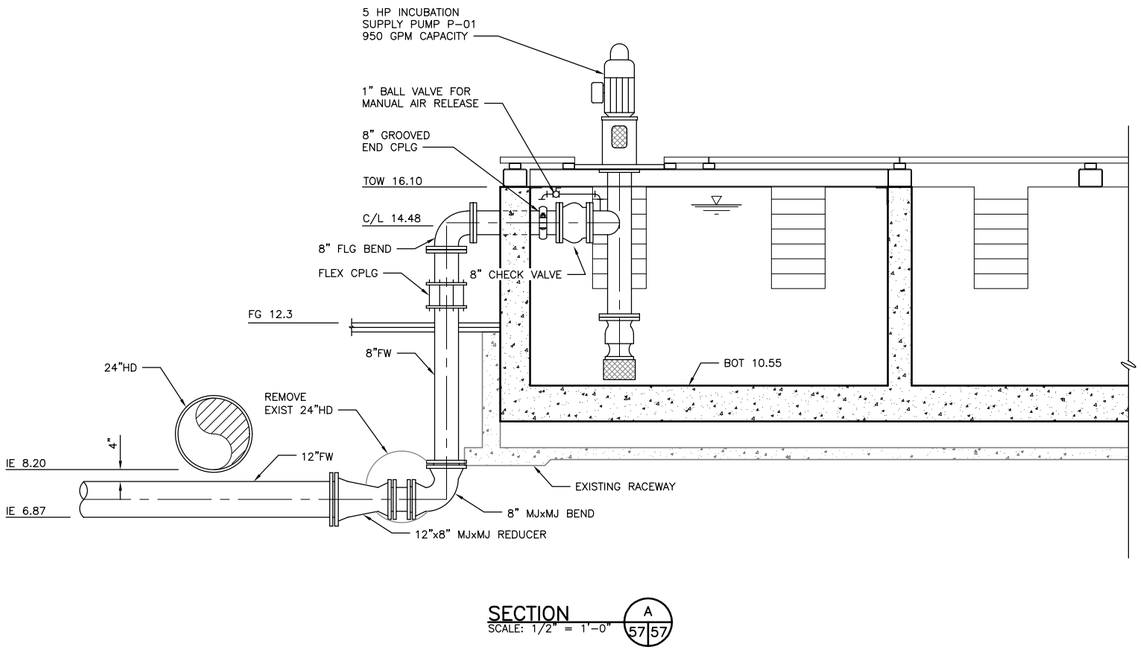


INCUBATION PUMP
SCALE: 1/2" = 1'-0"
1
54 57

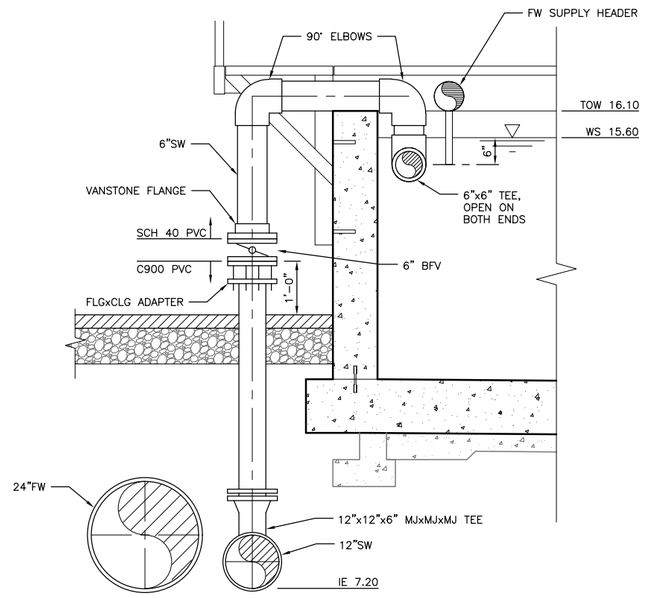


NOTE:
TYPICAL FOR RACEWAYS 15 – 18.

SALTWATER RISER PLAN
SCALE: 3/4" = 1'-0"
2
54 57



SECTION
SCALE: 1/2" = 1'-0"
A
57 57



SALTWATER RISER SECTION
SCALE: 3/4" = 1'-0"
B
57 57

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RACEWAY SECTIONS AND DETAILS

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SHEET 57 OF

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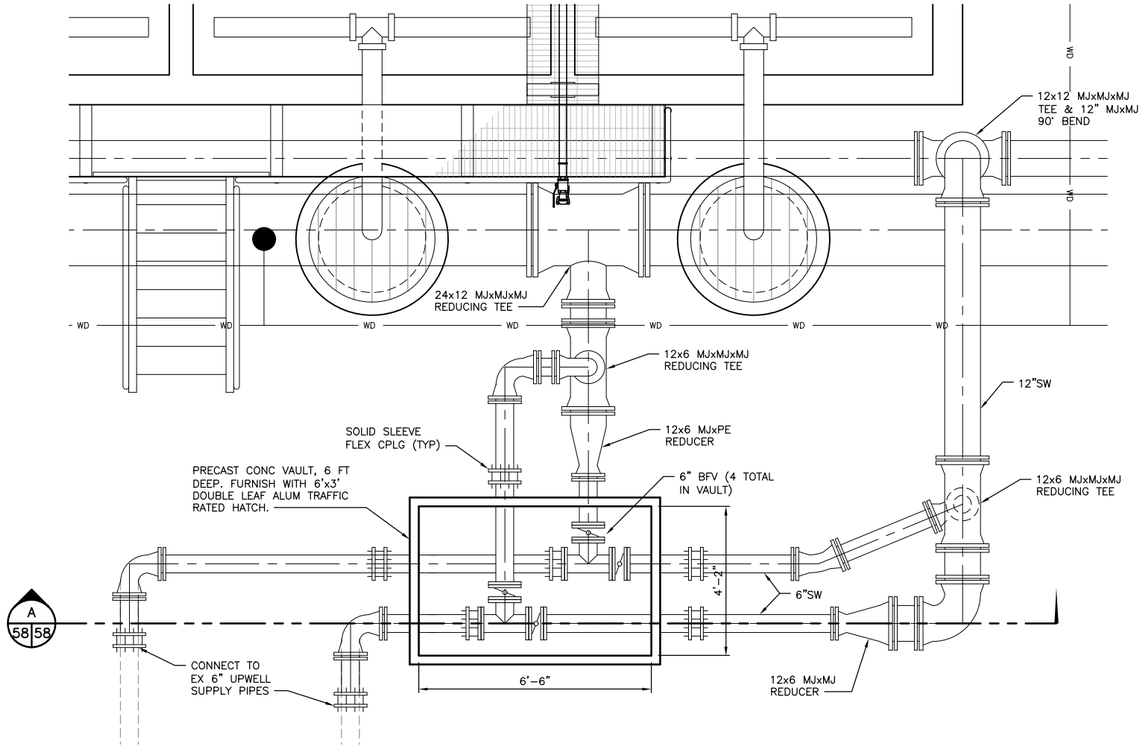
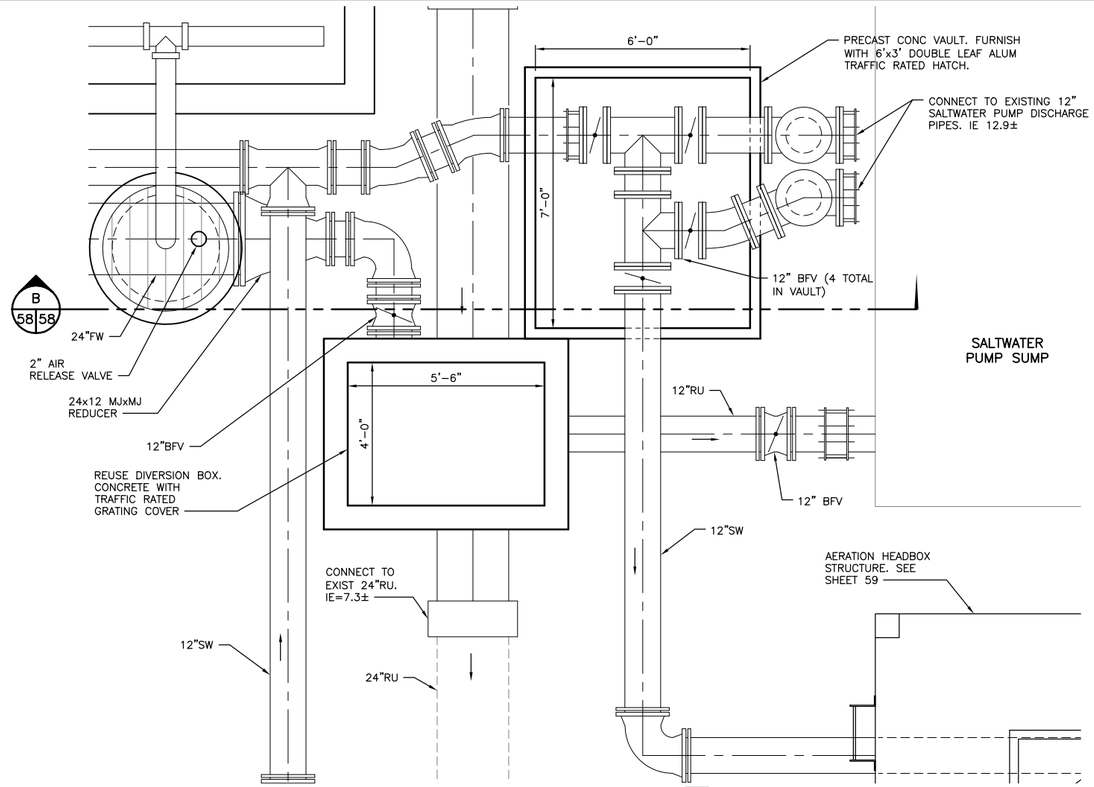


UPWELL SUPPLY VAULT PLAN (1 / 58 58)
SCALE: 1/2" = 1'-0"



PARTIAL PIPING PLAN (2 / 58 58)
SCALE: 1/2" = 1'-0"

TO BE
COMPLETED

UPWELL SUPPLY VAULT SECTION (A / 58 58)
SCALE: 1/2" = 1'-0"

TO BE
COMPLETED

SECTION (B / 58 58)
SCALE: 1/2" = 1'-0"

SHEET NUMBER
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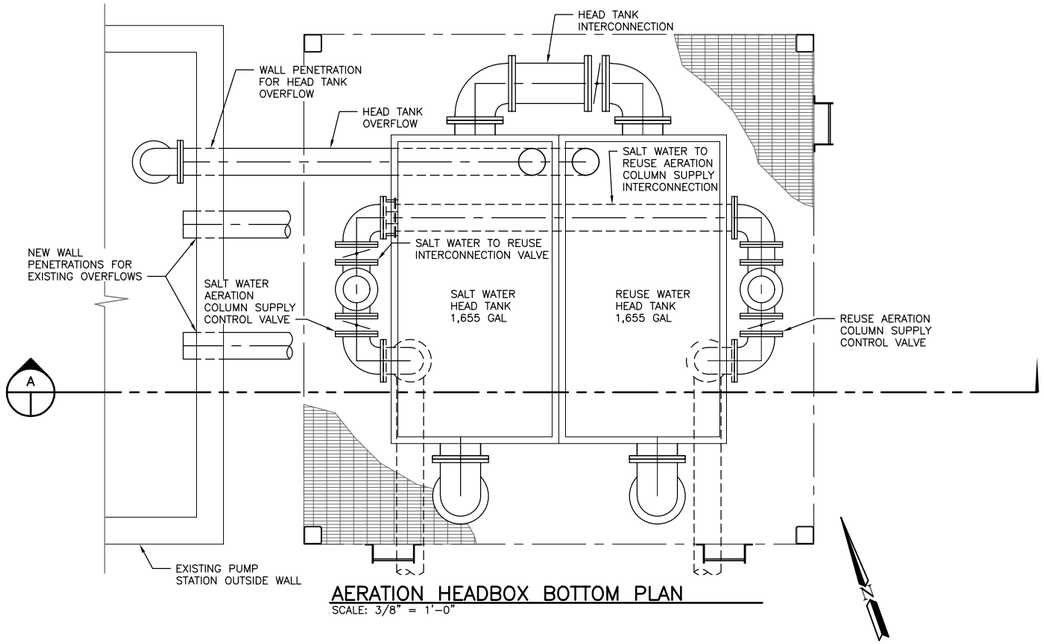
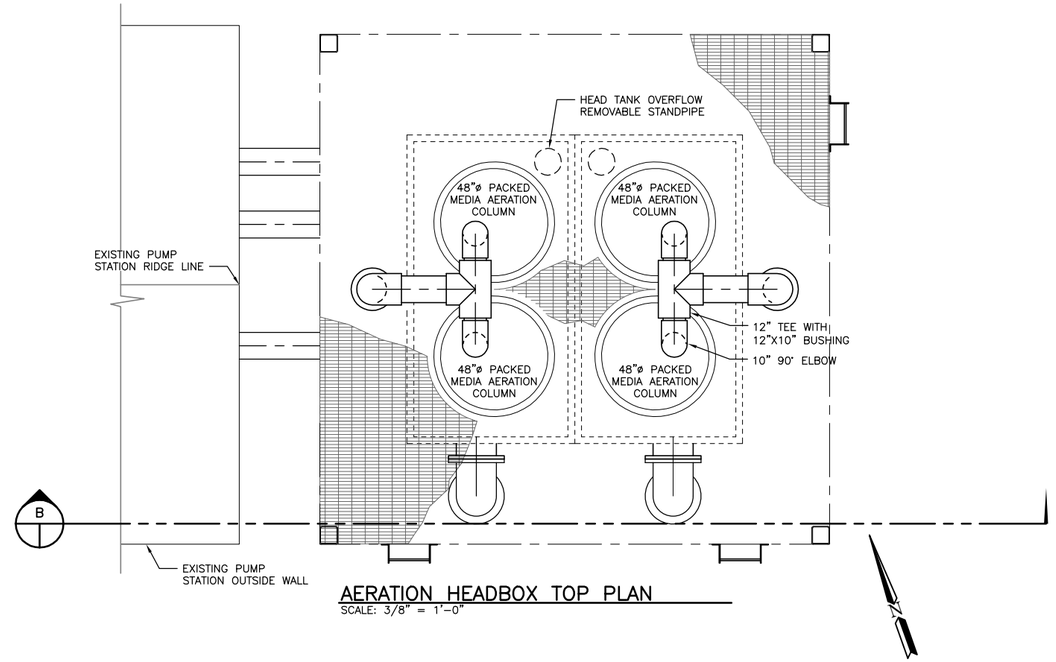
HOODSPORT HATCHERY
REARING POND REPLACEMENT
PARTIAL PIPING PLANS
AND SECTIONS

PROJECT NO.
MN:H23:16-1

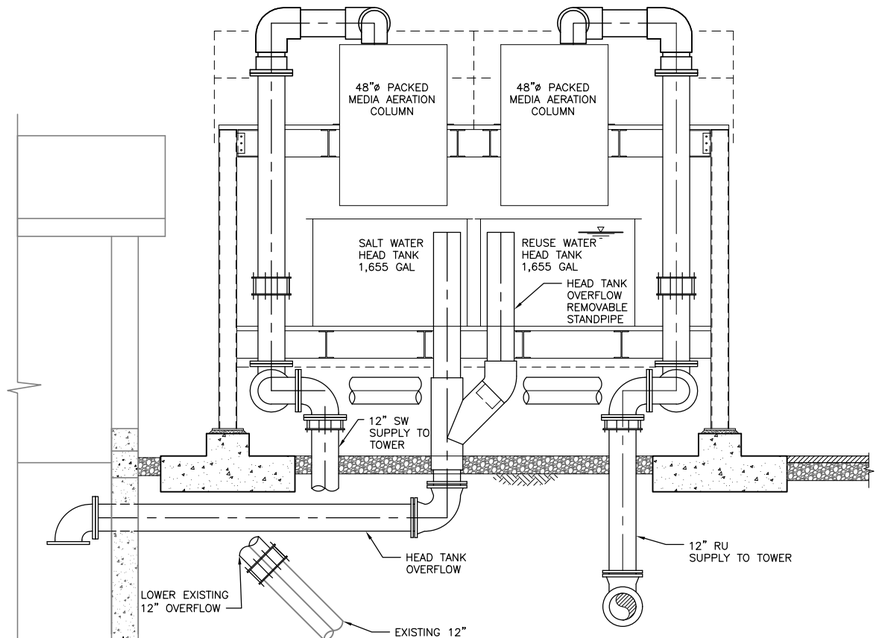
SHEET 58 OF



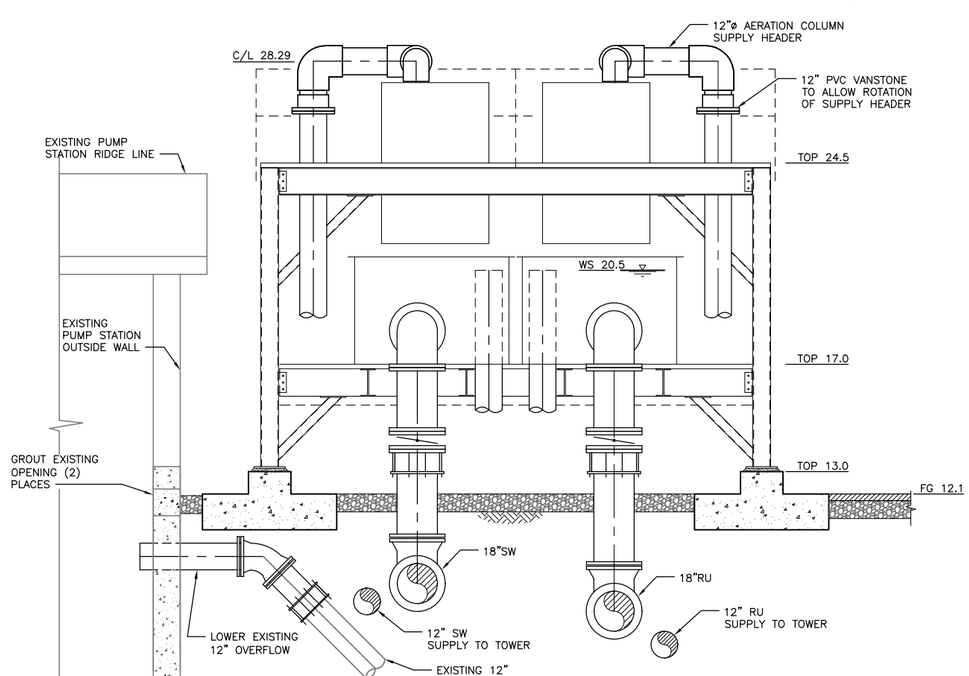
AERATION HEADBOX BOTTOM PLAN
SCALE: 3/8" = 1'-0"



AERATION HEADBOX TOP PLAN
SCALE: 3/8" = 1'-0"



SECTION A
SCALE: 3/8" = 1'-0"



SECTION B
SCALE: 3/8" = 1'-0"

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REARING POND REPLACEMENT
AERATION HEADBOX PLAN AND SECTION

SHEET NUMBER M1.6
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SINGLE LINE DIAGRAM

- ST — SHUNT TRIP CIRCUIT BREAKER
- GF — GROUND FAULT CIRCUIT BREAKER
- 200/3 — CIRCUIT BREAKER 200A, 3-POLE SHOWN
- VFD — VARIABLE FREQUENCY DRIVE
- TVSS — TRANSIENT VOLTAGE SURGE SUPRESSOR
- DISCONNECT SWITCH
- VALVE MOTOR AND ACTUATOR
- PQM — POWER QUALITY MONITOR
- SSS — SOLID STATE STARTER
- SST — SOLID STATE TRIP
- G — BUS CONNECTION
- 2 — M-MAGNETIC MOTOR STARTER, C-GENERAL USE CONTACTOR (NUMBER INDICATED NEMA SIZE)
- POWER FACTOR CORRECTION CAPACITOR
- DRAW-OUT TYPE EQUIPMENT
- 20 — FUSE, RATING
- GENERATOR
- GROUND CONNECTION
- 75KW — HEATER
- THERMAL OVERLOAD
- SURGE ARRESTOR
- CONDUCTOR CONNECTION
- M — METER
- C# — MOTION DETECTOR
- 75 — MOTOR, 75 HORSEPOWER
- RECEPTACLE - SPECIAL
- VS — VOLTMETER SWITCH, AS - AMMETER
- TRANSFER SWITCH
- POWER TRANSFORMER
- 3(3) — CURRENT TRANSFORMER, (3) INDICATES QUANTITY
- (3) — POTENTIAL TRANSFORMER (3) INDICATES QUANTITY
- K — KEY INTERLOCK OF EQUIPMENT
- M — MECHANICAL INTERLOCK OF EQUIPMENT
- E — ELECTRICAL INTERLOCK OF EQUIPMENT

SCHEMATIC

NORMALLY OPEN / NORMALLY CLOSED

- CONTACT
- 1TR — TIMED CONTACT, CONTACT ACTION RETARDED ON ENERGIZATION (ON DELAY)
- 1TR — TIMED CONTACT, CONTACT ACTION RETARDED ON DE-ENERGIZATION (OFF DELAY)
- LEVEL SWITCH
- PRESSURE SWITCH
- PUSH BUTTON SINGLE CIRCUIT MOMENTARY CONTACT
- TEMPERATURE SWITCH
- LIMIT SWITCH
- SPEED SWITCH, N.C. SHOWN. CONTACT CLOSES AT PRESET SPEED.
- ST — PUSHBUTTON, N.O. SHOWN, LETTERS INDICATE: A-AUTO, DN-DOWN, FWD-FORWARD, H-HAND, LOS-LOCK OUT STOP, O-OFF, REV-REVERSE, ST-START, SP-STOP, T-TEST
- AUTO / OPEN / CLOSE — SELECTOR SWITCH, "A" POSITION SHOWN. ARROW, WHEN USED, INDICATES SPRING RETURN, X'S AND O'S TO RIGHT OF CONTACTS, WHEN USED, INDICATE CONTACT DEVELOPMENT.
- O/L'S — MOTOR OVERLOAD DEVICE CONTACTS
- MOTOR OVERLOAD DEVICE
- A — PILOT LIGHT R= RED, W= WHITE, G= GREEN, A= AMBER
- CR — CONTROL RELAY
- TD TDAE — TIME DELAY RELAY. TIME DELAY ON ENERGIZATION
- TD TDAD — TIME DELAY RELAY. TIME DELAY ON DE-ENERGIZATION
- M — STARTER COIL
- SOLENOID OPERATED VALVE
- ETM — ELAPSED TIME METER
- FUSE
- CONTROL POWER TRANSFORMER
- GROUND
- MOTOR SPACE HEATER
- CONTROL PANEL D.C. SIGNALS
- CONTROL PANEL A.C. SIGNALS
- MCC D.C. SIGNALS
- MCC A.C. SIGNALS
- DEVICE D.C. SIGNALS
- DEVICE A.C. SIGNALS
- FIELD WIRING
- ENCLOSURE WIRING
- POTENTIAL TRANSFORMER
- CURRENT TRANSFORMER

LIGHTING

- RECESSED 1'x4' FIXTURE
- RECESSED 1'x4' FIXTURE - RETROFIT
- RECESSED 1'x4' FIXTURE - EMERGENCY
- RECESSED 1'x8' FIXTURE
- RECESSED 1'x8' FIXTURE - RETROFIT
- RECESSED 1'x8' FIXTURE - EMERGENCY
- RECESSED 2'x2' FIXTURE
- RECESSED 2'x2' FIXTURE - RETROFIT
- RECESSED 2'x2' FIXTURE - EMERGENCY
- RECESSED 2'x4' FIXTURE
- RECESSED 2'x4' FIXTURE - RETROFIT
- RECESSED 2'x4' FIXTURE - EMERGENCY
- RECESSED 4'x4' FIXTURE
- RECESSED 4'x4' FIXTURE - RETROFIT
- RECESSED 4'x4' FIXTURE - EMERGENCY
- 1'x4' WALL FIXTURE
- 1'x4' WALL FIXTURE - RETROFIT
- 1'x4' WALL FIXTURE - EMERGENCY
- 1'x8' WALL FIXTURE
- 1'x8' WALL FIXTURE - RETROFIT
- 1'x8' WALL FIXTURE - EMERGENCY
- LIGHTING FIXTURE, FLUORESCENT, LOWER CASE LETTER REFERS TO SWITCHED CIRCUIT
- SURFACE FIXTURE - EMERGENCY
- EMERGENCY LIGHT DUAL
- J — EMERGENCY LIGHT REMOTE
- WALL LIGHT
- EXIT SIGN - WALL MOUNTED
- EXIT SIGN - CEILING MOUNTED
- PENDANT MOUNTED LIGHT
- LIGHTING FIXTURE, POLE MOUNT
- PC — PHOTOELECTRIC CONTROL UNIT. WALL MOUNTED
- LIGHTING FIXTURE, WALL MOUNT
- DOWNLIGHT

GENERAL

- A — CALLOUT - CONDUIT
- HTR-1 — CALLOUT - EQUIPMENT
- LI 101 — CALLOUT - INSTRUMENT
- X XX — CALLOUT - LIGHTING FIXTURE TYPE AND WATTAGE SEE SCHEDULE
- # — FLAG NOTE
- LIGHT LINE INDICATED EXISTING ELECTRICAL OR EXISTING EQUIPMENT. LIGHT LINE MAY ALSO BE USED FOR DETAIL DRAWING CLARITY.
- HEAVY LINE INDICATED NEW WORK
- EXISTING WORK TO BE REMOVED
- CONDUIT IN SLAB OR BELOW GRADE
- CONDUIT EXPOSED
- GROUNDING CONDUCTOR 30" BELOW GRADE
- CONDUIT BENDS TOWARD OBSERVER
- CONDUIT BENDS AWAY FROM OBSERVER
- CONDUIT STUB
- J — FLEXIBLE CONDUIT CONNECTION
- EQUIPMENT CONNECTION
- J — JUNCTION BOX
- LIGHTING SWITCH
- 3 — 3-WAY SWITCH
- 4 — 4-WAY SWITCH
- D — DIMMING SWITCH, LETTER REFERS TO CONTROLLED FIXTURES, 3-3 WAY
- M — MOTOR RATED SWITCH WITH OVERLOAD PROTECTION
- LV — SWITCH - LOW VOLTAGE
- ROD WELL
- PUSH BUTTON
- GENERATOR
- MOTOR
- DEVICE CONNECTION
- TB — TERMINAL BOX
- T — THERMOSTAT
- RECEPTACLE - DUPLEX
- RECEPTACLE - DUPLEX-UPS
- RECEPTACLE - FLOOR
- RECEPTACLE - FLOOR-UPS
- RECEPTACLE - CEILING
- RECEPTACLE - SINGLE
- RECEPTACLE - TRIPLE
- RECEPTACLE - 4-PLEX
- RECEPTACLE - SPECIAL
- RECEPTACLE - SURFACE
- HH — HANDHOLE
- PB — PULLBOX
- CONDUIT SEAL

GENERAL (CONTINUED)

- DUCT BANK, CONCRETE ENCASED
- DUCT BANK, CONCRETE ENCASED, STEEL REINFORCED
- GROUND WIRE WITH CADWELD CONNECTION PIGTAILED 18" ABOVE FINISHED FLOOR
- GROUND WIRE WITH CADWELD CONNECTION
- 2L1-1,3 — PHASE/SWITCHLEG CONDUCTOR; HOMERUN/CONDUIT; GROUND CONDUCTOR; NEUTRAL CONDUCTOR; PANEL AND CIRCUIT (EXAMPLE: PANEL 2L1, CIRCUITS 1 AND 3)
- JACK - VOICE / DATA
- JACK - DATA OR OUTLET BOX ONLY
- JACK - VOICE
- PANELBOARD
- DISCONNECT SWITCH
- F — DISCONNECT SWITCH "F" INDICATES FUSED, SEE PLANS FOR RATING
- COMBINATION STARTER AND DISCONNECT SWITCH
- ATS — AUTOMATIC TRANSFER SWITCH
- T — TRANSFORMER

FIRE ALARM

- FIRE ALARM DUCT SMOKE DETECTOR
- FCP — FIRE ALARM CONTROL PANEL
- X — FIRE ALARM AIR TYPE DETECTOR X = STANDARD NOMENCLATURE
- FIRE ALARM WALL-MOUNTED BELL
- FSA — FIRE ALARM FIRE SYSTEM ANNUNCIATOR
- FIRE ALARM HORN/STROBE
- FIRE ALARM HORN/STROBE
- FIRE ALARM MANUAL PULL STATION
- FIRE ALARM HEAT DETECTOR
- FIRE ALARM POST-INDICATOR VALVE
- FIRE ALARM STROBE
- FIRE ALARM FLOW SWITCH
- FIRE ALARM TAMPER SWITCH
- FIRE ALARM PRESSURE SWITCH

SECURITY

- P — SECURITY READER - PROCESSOR
- KP — SECURITY READER - KEYPAD
- PK — SECURITY READER - PROXY KEYPAD
- PR — SECURITY READER - PROXY READER
- CR — SECURITY READER - CARD READER
- SECURITY VIDEO

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WASHINGTON STATE
DEPARTMENT OF FISH AND WILDLIFE

SYM	DATE	REVISION DESCRIPTION	BY

APPROVED AND RELEASED FOR CONSTRUCTION

CHIEF ENGINEER ..... DATE: .....
PROGRAM ..... DATE: .....

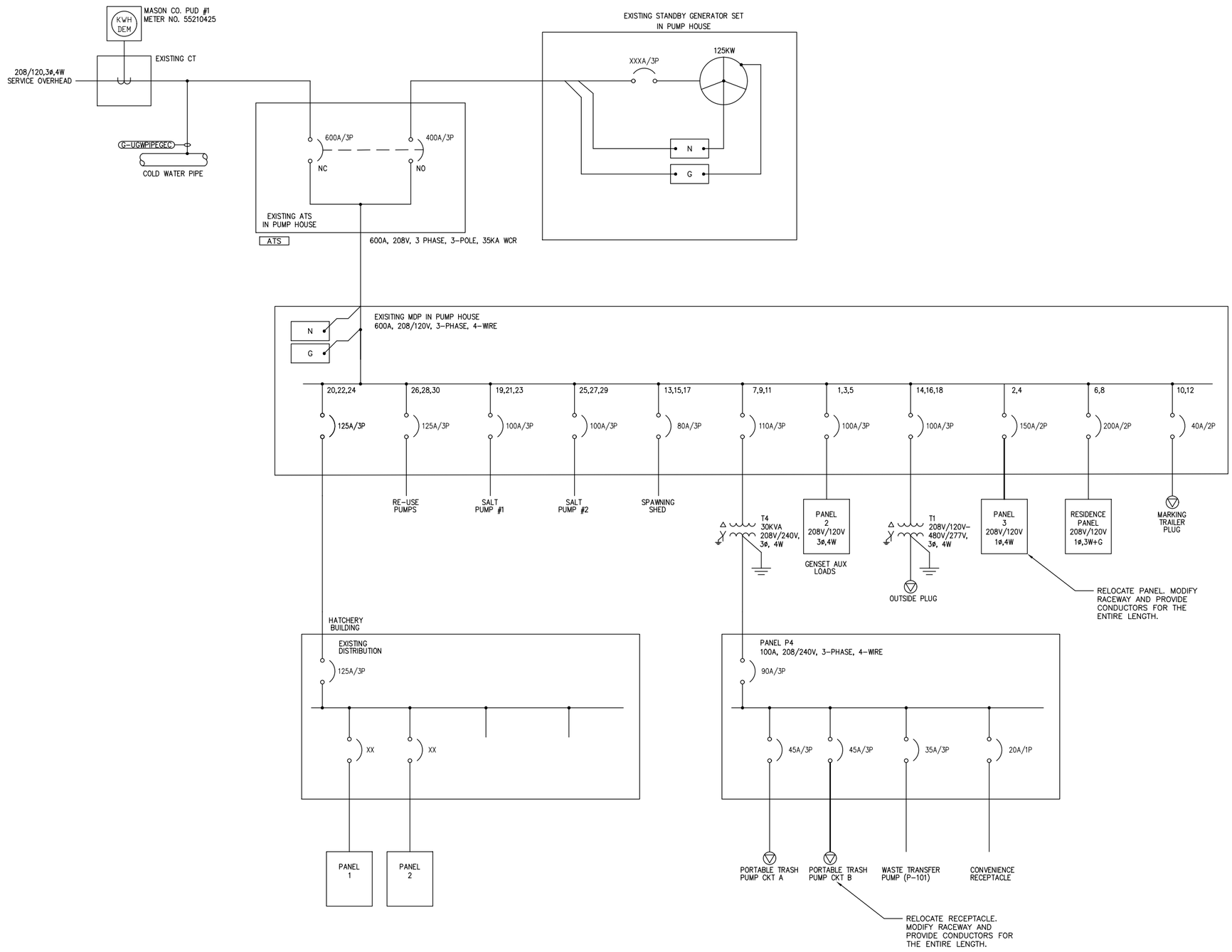
NOT FOR CONSTRUCTION

0 —— 1"
BAR MEASURES ONE INCH ON ORIGINAL DRAWINGS

DESIGNED BY JAR
CHECKED BY JAR
DRAWN BY
DATE MAY 2017

HOODSPORT HATCHERY
REARING POND REPLACEMENT
ELECTRICAL SYMBOLS AND ABBREVIATIONS

SHEET NUMBER E0.1
PROJECT NO. MN:H23:16–1
SHEET 61 OF



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DESIGNED BY JAR
CHECKED BY DJN
DRAWN BY JAR
DATE MAY 2017

HOODSPORT HATCHERY
REARING POND REPLACEMENT
ONE-LINE DISTRIBUTION DIAGRAM

SHEET NUMBER
E0.4
PROJECT NO.
MN:H23:16-1
SHEET 64
OF

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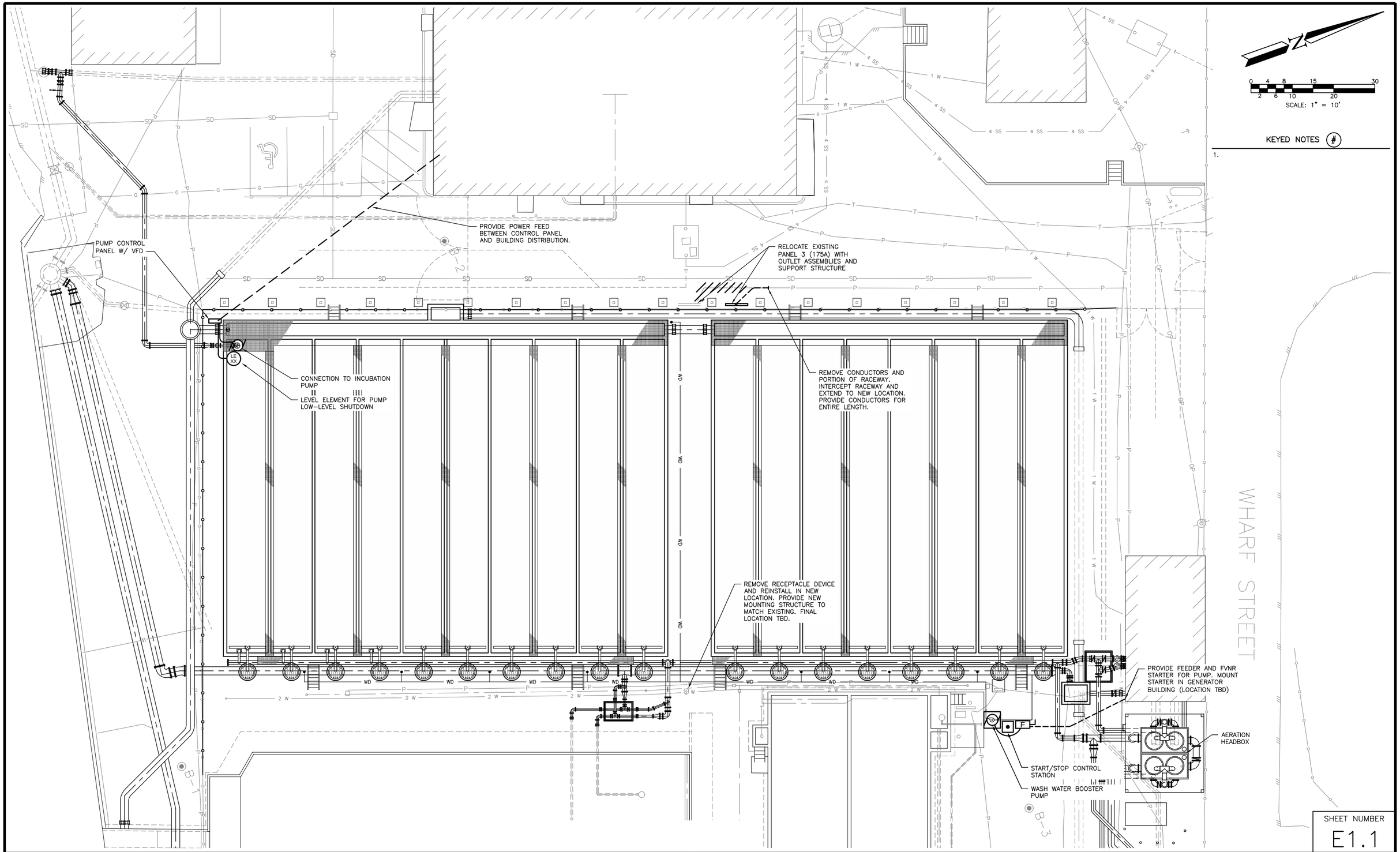

KEYED NOTES (#)

1.

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PROGRAM ..... DATE: .....

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0 — 1"
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CHECKED BY DJN
DRAWN BY JAR
DATE MAY 2017

HOODSPORT HATCHERY

REARING POND REPLACEMENT

PARTIAL SITE ELECTRICAL PLAN

SHEET NUMBER
E1.1

PROJECT NO.
MN:H23:16-1

SHEET 66 OF

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