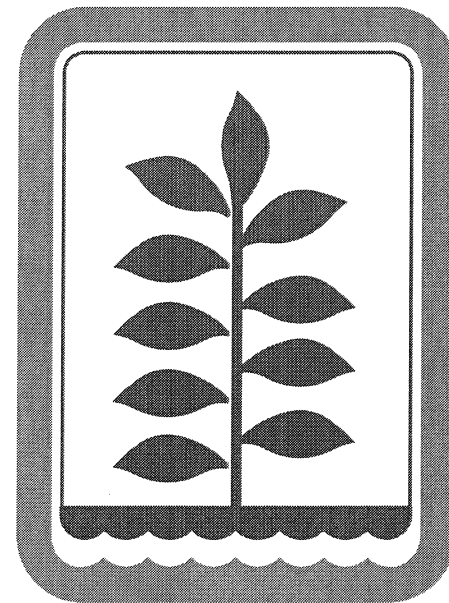


NORTH TEXAS MUNICIPAL WATER DISTRICT

CONSTRUCTION PLANS FOR

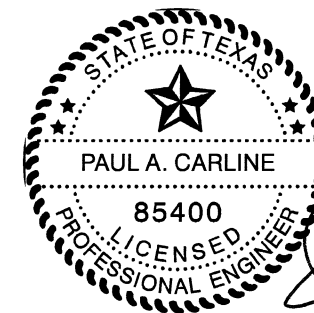
LAKE SIDE LIFT STATION IMPROVEMENTS

PROJECT NO. SRWWPCF 07-1(102)



BIRKHOFF, HENDRICKS & CARTER, L.L.P.
PROFESSIONAL ENGINEERS
Texas Firm F526
Dallas, Texas

OCTOBER, 2008



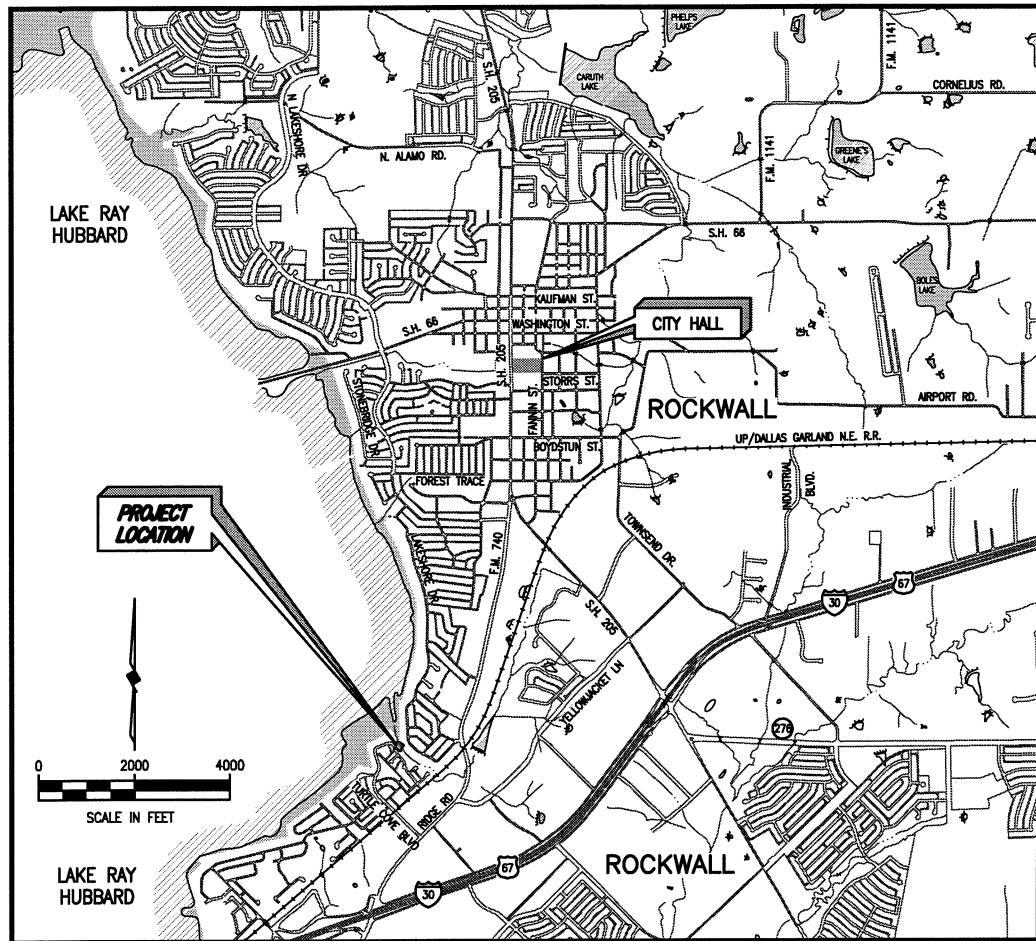
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10/17/08

This record drawing is a compilation of the sealed engineering drawing for this project; modified by addenda, change orders and information furnished by the contractor. The information shown on the record drawings that was provided by the contractor or others not associated with the design engineer cannot be verified for accuracy or completeness. This original sealed drawings are on file at the offices of Birkhoff, Hendricks & Carter, L.L.P.

BY P.A.C. DATE 01/06/11

CONFORMED SET

These plans and related specifications were prepared for construction of this specific project only. Reuse of these documents is not permitted without written authorization of Birkhoff, Hendricks & Carter, L.L.P.



LOCATION MAP

NOT TO SCALE

BUILDING ADDRESS:
 1927 GULLWING DRIVE
 ROCKWALL, TEXAS 75087

CITY OF ROCKWALL
 BLDG PERMIT NO: 2009-0106

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BY P.A.C. DATE 01/06/11

PROJECT NOTES
 (NO SEPARATE PAY ITEMS)

- 1) ALL TOPSOIL SHALL BE STOCKPILED AND REPLACED TO A MINIMUM DEPTH OF 6 INCHES. THE REPLACED TOPSOIL SHALL BE DISC HARROWED AND SMOOTHED.
- 2) FINISHED GROUND SHALL NOT CONTAIN ANY MORE ROCK OR DEBRIS THAN THE SURROUNDING UNDISTURBED GROUND.
- 3) UNLESS OTHERWISE SHOWN ON THE PLANS THE CONTRACTOR SHALL RESTORE GROUND TO ORIGINAL GRADE AND PREVENT PONDING OF STORM WATER RUNOFF ON ALL GROUND DISTURBED BY CONSTRUCTION ACTIVITIES.
- 4) CONTRACTOR SHALL NOT REMOVE ANY TREES LARGER THAN 4 INCHES IN DIAMETER UNLESS IT IS SHOWN WITH A BOLD "X" ON THE PLANS WITHOUT WRITTEN PERMISSION OF THE OWNER.
- 5) CONTRACTOR MAY TRIM TREES AS NECESSARY UNDER OWNERS SUPERVISION.
- 6) ALL CUT LIMBS OVER 1 INCH IN DIAMETER SHALL BE PAINTED WITH TREE WOUND PAINT IMMEDIATELY AFTER CONSTRUCTION ACTIVITIES HAVE BEEN COMPLETED IN THIS AREA.
- 7) ALL TREES OVER 4 INCHES IN DIAMETER THAT ARE REMOVED OR SEVERELY DAMAGED BY CONSTRUCTION OPERATIONS WITHOUT PERMISSION SHALL BE REPLACED WITH AN EQUIVALENT TYPE AND DIAMETER OF TREE AT THE SOLE EXPENSE OF THE CONTRACTOR OR THE CONTRACTOR SHALL PAY THE FAIR MARKET VALUE TO THE OWNER.
- 8) THE CONTRACTOR SHALL TAKE SPECIAL CARE IN AVOIDING DAMAGE TO PLANT MATERIAL OR TREES WITHIN THE SITE OR PROPERTY ADJACENT TO THE WORK. ANY AND ALL DAMAGE TO PLANT MATERIAL OR TREES AS A RESULT OF THE CONTRACTOR'S WORK SHALL BE PAID FOR AND CORRECTED AT THE EXPENSE OF THE CONTRACTOR IN ACCORDANCE WITH THE TEXAS A&M FORMULA FOR SHADE TREE EVALUATION.
- 9) ANY FENCES DAMAGED OR REMOVED BY CONSTRUCTION ACTIVITIES NOT NOTED ON PLANS SHALL BE REPLACED WITH A FENCE OF EQUAL OR SUPERIOR QUALITY AT CONTRACTOR'S EXPENSE.
- 10) CONTRACTOR SHALL INCLUDE ALL COSTS FOR REMOVAL AND/OR REPLACEMENT OF PAVEMENT, FENCES, GATES, AND OTHER IMPROVEMENTS DAMAGED BY RELATED CONSTRUCTION ACTIVITIES IN THE APPROPRIATE ITEM OF THE BID SCHEDULE.
- 11) THE LOCATION OF ALL UNDERGROUND UTILITIES SHOWN IN THE PLANS IS APPROXIMATE AND BASED ON THE INFORMATION AVAILABLE TO THE ENGINEER DURING DESIGN OF THE PROJECT. CONTRACTOR SHALL VERIFY THE LOCATIONS OF ALL EXISTING UTILITIES SUFFICIENTLY IN ADVANCE OF THE CONSTRUCTION SO THAT, IF IT IS NECESSARY TO CHANGE OR MOVE THE UTILITY THE PROGRESS OF THE WORK WILL NOT BE DELAYED.
- 12) CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING ALL EXISTING SERVICE LINES AND IRRIGATION SYSTEMS CROSSED OR EXPOSED BY HIS CONSTRUCTION OPERATIONS. WHERE THEY ARE CUT, BROKEN OR DAMAGED, THE CONTRACTOR SHALL IMMEDIATELY REPLACE THEM WITH THE SAME TYPE AS THE ORIGINAL CONSTRUCTION OR SUPERIOR.
- 13) ANY CONCRETE PAVEMENT OR SIDEWALK, NOT SHOWN TO BE REMOVED IN THE PLANS, REMOVED BY THE CONTRACTOR SHALL BE REPLACED BY THE CONTRACTOR AT HIS SOLE EXPENSE.
- 14) IF CONTRACTOR ENCOUNTERS GROUNDWATER ON THE PROJECT, HE SHALL PROVIDE ADEQUATE MEASURES FOR DEWATERING THE TRENCH. ALL COSTS FOR PUMPS AND/OR OTHER RELATED APPURTENANCES SHALL BE INCLUDED IN THE APPROPRIATE ITEM OF THE BID SCHEDULE.
- 15) REMOVAL AND REPLACEMENT OF GRAVEL DRIVES, PARKING AREAS, AND WALKWAYS NOT SHOWN IN THE PLANS SHALL BE SUBSIDIARY. ALL COSTS SHALL BE INCLUDED IN THE APPROPRIATE ITEM OF THE BID SCHEDULE.
- 16) CONTRACTOR SHALL CONSTRUCT TEMPORARY ASPHALT RAMP TO PROTECT CURBS AT THE CONCRETE PAVEMENT USED BY CONSTRUCTION TRAFFIC, AND SHALL REMOVE ASPHALT AT COMPLETION OF PROJECT.
- 17) NO TRENCHES SHALL BE LEFT OPEN WHILE CONTRACTOR IS NOT WORKING.
- 18) CONTRACTOR SHALL CONTAIN ALL WORK WITHIN THE EASEMENTS PROVIDED FOR THIS PROJECT AS SHOWN ON THE PLANS.
- 19) THE CONTRACTOR SHALL PROVIDE BARRICADES, FLAGMEN AND OTHER TRAFFIC CONTROL DEVICES AS REQUIRED BY THE CITY OF ROCKWALL ENGINEERING DEPARTMENT FOR ANY CITY STREET LANE CLOSURES AND AS REQUIRED BY THE TEXAS DEPARTMENT OF TRANSPORTATION FOR WORK WITHIN TxDOT RIGHT-OF-WAY.
- 20) CONTRACTOR SHALL PROVIDE PRE AND POST CONSTRUCTION VIDEO OF THE PROJECT SITE. (NO PAY ITEM) CONTRACTOR SHALL PROVIDE VIDEO ON DVD FORMAT TO N.T.M.W.D.
- 21) CONTRACTOR SHALL PROTECT ALL DRAINAGE STRUCTURES.

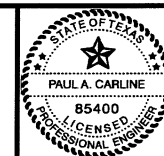
SUMMARY OF ABBREVIATIONS AND DEFINITIONS

GENERAL TOPOGRAPHY & HORIZONTAL/ VERTICAL CONTROL				TREES & BUSHES	
ABBREVIATION	DEFINITION	ABBREVIATION	DEFINITION	ABBREVIATION	DEFINITION
B.C.	BACK OF CURB	P.I.	POINT OF INTERSECTION	B.D.	BOIS D'ARC TREE
B.-B.	BACK TO BACK	P.L.	PROPERTY LINE	B.T.	BLACK THORN TREE
Q	CENTERLINE	P.P. OR U.P.	POWER POLE OR UTILITY POLE	C.B.	CHINABERRY TREE
C.M.A.P.	CORRUGATED METAL ARCH PIPE	P.R.C.	POINT OF REVERSE CURVATURE	C.D.R.	CEDAR TREE
C.M.P.	CORRUGATED METAL PIPE	P.T.	POINT OF TANGENCY	C.E.	CEDAR ELM TREE
C.I.	CAST IRON	P.V.C.	PLASTIC PIPE	C.M.	CRAPE MYRTLE TREE
C.O.	CLEANOUT	P.V.I.	POINT OF VERTICAL INTERSECTION	C.P.	CHINESE PISTACHIO TREE
CONN.	CONNECTION	R.	RADIUS	C.W.	COTTONWOOD TREE
CULV.	CULVERT	R.C.	REINFORCED CONCRETE	C.Y.P.	CYPRESS TREE
D.I.P.	DUCTILE IRON PIPE	R.C.P.	REINFORCED CONCRETE PIPE	H.B.	HACKBERRY TREE
EL.	ELEVATION	R.C.C.P.	REINFORCED CONCRETE CYLINDER PIPE	HICK.	HICKORY TREE
ELEC.	BURIED ELECTRICAL POWER LINE	R.O.W.	RIGHT OF WAY	H.T.	HAWTHORNE TREE
ENC.	ENCASEMENT	SAN. SEW. OR S.S.	SANITARY SEWER	JAP.	JAPONICA TREE
E.P.	EDGE OF PAVEMENT	S.H.	SANITARY SEWER HEAD	J.G.	LIGUSTRUM BUSH
ESMT.	EASEMENT	S.L.	SURVEY LINE	L.O.	LIVE OAK TREE
F.-F.	FACE TO FACE	S.S.	SANITARY SEWER	LOC.	LOCUST TREE
F.H.	FIRE HYDRANT	S.S.M.H.	SANITARY SEWER MANHOLE	MAG.	MAGNOLIA TREE
F.M.	SANITARY SEWER FORCE MAIN	ST. SEW.	STORM SEWER	MAP.	MAPLE TREE
F.L.	FLOW LINE	S.V.B.	LAWN SPRINKLER VALVE BOX	MSQ.	MESQUITE TREE
G.L.M.	GAS LINE MARKER	T.B.	TELEPHONE CABLE BOX	MM.	MIMOSA TREE
G.M.	GAS METER	T.C.	TOP OF CURB	MUL.	MULBERRY TREE
G.V.	GAS VALVE	TEL.	BURIED TELEPHONE CABLE	NAN.	NANDENA BUSH
GUT.	GUTTER	T.M.H.	TELEPHONE CABLE MANHOLE	PEC.	PECAN TREE
HWL.	HEADWALL	TO F.	TO FACE (OF CURB)	PER.	PERSIMMON TREE
I.P.F. OR I.R.F.	IRON PIN (ROD) FOUND	TRANS.	ELECTRICAL TRANSFORMER	PHOT.	RED TIPPED PHOTINIA BUSH
LL.	LANDSCAPING LIGHT	T.V.	BURIED TELEVISION CABLE	PIST.	CHINESE PISTACHIO TREE
L.P.	LIGHT POLE	T.V.B.	CABLE TELEVISION BOX	R.B.	REDBUD TREE
L.S.	SANITARY SEWAGE LIFT STATION	U.G.C.M.	UNDERGROUND CABLE MARKER	R.O.	RED OAK TREE
L.S.T.	LANDSCAPING TIMBERS	U.P.M.	UNDERGROUND PIPELINE MARKER	S.G.	SWEET GUM TREE
M.B.	MAILBOX	V.C.	VERTICAL CURVE	SYC.	SYCAMORE TREE
M.B.G.F.	METAL BEAM GUARD FENCE	W. OR W.L.	WATER LINE	WIL.	WILLOW TREE
M.H.	MANHOLE	W.M.	WATER METER		
P.C.	POINT OF CURVATURE	W.V.	WATER VALVE		

SHEET INDEX

DESCRIPTION	SHEET NO.
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CIVIL-SITE PLAN	C4
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ARCHITECTURAL - EXTERIOR ELEVATIONS	A2
ARCHITECTURAL - WALL SECTIONS & MISC. DETAILS	A3
STRUCTURAL - GENERAL NOTES & TYPICAL DETAILS	S1
STRUCTURAL - PLANS, SECTIONS & DETAILS	S2
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ELECTRICAL - SITE PLAN	E1
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BIRKHOFF, HENDRICKS & CARTER, L.L.P.
 PROFESSIONAL ENGINEERS
 Texas Firm F526
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 Dallas, Texas (214) 361-7900
















10/17/08

NORTH TEXAS MUNICIPAL WATER DISTRICT
 LAKESIDE LIFT STATION IMPROVEMENTS
LOCATION MAP, PROJECT NOTES AND SHEET INDEX

BHC
 PROJECT NO.
 2007-104
 October, 2008

SHEET NO.
C2

LEGEND OF SYMBOLS

	CONCRETE PAVEMENT
	GRAVEL PAVEMENT
	STONE OR ROCK PAVEMENT
	PROPERTY OR SUB-DIVISION LINE
	PERMANENT EASEMENT
	TEMPORARY EASEMENT
	SLOPE OR TOP BANK
	CREEK OR DITCH
	BURIED TELEPHONE CABLE
	TREES, BUSH OR BRUSH
	WOOD FENCE
	WROUGHT IRON FENCE
	CHAIN LINK FENCE

EXISTING UTILITY OWNERS

NORTH TEXAS MUNICIPAL WATER DISTRICT	DENNIS McSHERRY BRUCE COLE	(972) 442-5405	
CITY OF ROCKWALL	CHUCK TODD	(972) 771-7746	CITY ENGINEER
COMCAST	-	(800) 252-1133	
SOUTHWESTERN BELL TELEPHONE	-	(800) 395-0440 (800) 545-8005	
TCI CABLE	-	(214) 328 5000	
TEXAS ONE CALL SYSTEM	-	(800) 245-4545	
TEXAS EXCAVATION SAFETY SYSTEM	-	(800) 344-8377	
ONCOR	RICHARD BREWSTER	(214) 486-4245	
ATMOS ENERGY	LINE LOCATE EMERGENCY BEN CURTIS RONNEY LINTON	(800) 344-8377 (800) 817-8090 (800) 344-8377 (469) 261-2023	PROJECT MANAGER
LEVEL 3 FIBER OPTIC	-	(877) 366-8344	
METRO MEDIA FIBER OPTIC	-	(972) 771-7746	DIG/EMERGENCY

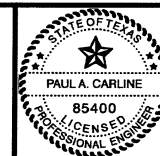
GENERAL PROJECT NOTES

- CONTRACTOR SHALL SECURE EXCAVATIONS AT THE END OF EACH DAY. THE OWNER MAY REQUIRE THAT NO TRENCHES BE LEFT OPEN OVERNIGHT IN STREETS OR POPULATED AREAS.
- TOPSOIL SHALL BE STOCKPILED AND REPLACED TO A MINIMUM DEPTH OF 6 INCHES AND DISC HARROWED TO A MINIMUM DEPTH OF 4 INCHES.
- FINISHED GROUND SHALL HAVE NO MORE ROCKS OVER 1 INCH THAN SURROUNDING UNDISTURBED GROUND.
- RESTORE GROUND TO ORIGINAL GRADE AND PREVENT PONDING OF STORM WATER RUNOFF ON ALL GROUND DISTURBED BY CONSTRUCTION ACTIVITIES.
- CONTRACTOR SHALL PROVIDE TEMPORARY SUPPORT OF ALL POWER AND TELEPHONE POLES AND GUY WIRES WITHIN PROJECT SITE AND SHALL REPAIR DAMAGED POLES AND GUY WIRES OR RELOCATE POLES AND GUY WIRES AS REQUIRED BY THE UTILITY OWNER AT NO ADDITIONAL COST TO THE OWNER. CONTRACTOR MUST CONTACT & COORDINATE ALL WORK AND FEES W/ UTILITY OWNER AT NO ADDITIONAL COST TO NTMWD.
- TRIMMING OF TREES SHALL BE ACCOMPLISHED USING A SAW OR PRUNING SHEARS. ALL CUT LIMBS OVER 1 INCH IN DIAMETER SHALL BE PAINTED WITH TREE WOUND PAINT IMMEDIATELY AFTER TREE TRIMMING.
- CONTRACTOR SHALL REPLACE ANY TREES REMOVED OR DESTROYED WITHOUT THE OWNER'S PERMISSION OR SHALL PAY FAIR MARKET VALUE (AS DETERMINED BY THE OWNER) TO THE OWNER.
- ANY FENCES DAMAGED OR REMOVED BY CONSTRUCTION ACTIVITIES SHALL BE REPLACED AT THE SAME LOCATION WITH A FENCE OF EQUAL OR SUPERIOR QUALITY.
- TEMPORARY FENCING SHALL BE REQUIRED WHERE INDICATED ON THE DRAWINGS, WHERE THERE IS LIVESTOCK, AND WHERE DAMAGED OR REMOVED FENCES ARE NOT TO BE REPLACED BY END OF SAME WORK DAY, OR AS DIRECTED BY OWNER. CONTRACTOR TO VERIFY PRESENCE OF LIVESTOCK WITH LANDOWNER PRIOR TO ENTERING PROPERTY.
- CONTRACTOR SHALL VERIFY THE LOCATIONS OF ALL EXISTING UTILITIES SUFFICIENTLY IN ADVANCE OF THE CONSTRUCTION SO THAT IF IT IS NECESSARY TO CHANGE OR MOVE THE UTILITY, THE PROGRESS OF THE WORK WILL NOT BE DELAYED, & ALL COSTS INCURRED FOR UTILITY CONFLICTS WILL BE AT NO ADDITIONAL COST TO NTMWD.
- CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING SERVICE LINES CROSSED OR EXPOSED BY HIS CONSTRUCTION OPERATIONS. WHERE EXISTING SERVICE LINES ARE CUT, BROKEN OR DAMAGED THE CONTRACTOR SHALL IMMEDIATELY REPLACE THE SERVICE LINES IN KIND WITH LIKE OR BETTER MATERIALS.
- CONTRACTOR SHALL PROVIDE A STORM WATER POLLUTION PREVENTION PLAN AND PROVIDE ALL APPURTENANCES TO COMPLY WITH THE LATEST TCEQ STORM WATER POLLUTION PREVENTION REGULATIONS. CONTRACTOR SHALL BE RESPONSIBLE FOR FILING A NOTICE OF INTENT (NOI) AT THE START OF CONSTRUCTION WITH THE TCEQ AND A NOTICE OF TERMINATION (NOT) AT THE END, ALSO WITH THE TCEQ.
- CONTRACTOR SHALL PROVIDE ADEQUATE MEASURES FOR DEWATERING AS NECESSARY.
- CONTRACTOR SHALL REMOVE FENCES AS REQUIRED FOR CONSTRUCTION. BARBED WIRED, WROUGHT IRON, CHAIN AND CHAIN LINK FENCES SHALL BE REPLACED OR RECONSTRUCTED. NEW MATERIALS SHALL MATCH EXISTING FENCES. ALL WOOD FENCES SHALL BE REPLACED WITH NEW CEDAR WITH THE POSTS MATCHING THE EXISTING POSTS. ANY FENCING REMOVED SHALL BE REPLACED IN KIND WITH LIKE OR BETTER MATERIALS, AND BE PAINTED OR STAINED TO MATCH EXISTING FENCE.
- CONTRACTOR SHALL PROTECT ALL UNDERGROUND IRRIGATION SYSTEMS (KNOWN AND UNKNOWN). ALL DAMAGE SHALL BE REPAIRED BY IRRIGATOR LICENSED IN THE STATE OF TEXAS.
- CONTRACTOR SHALL SUBMIT A WRITTEN PLAN AND SCHEDULE 14 DAYS IN ADVANCE OF CONSTRUCTION ACTIVITIES REQUIRING REPLACEMENT OR SUPPORT OF EXISTING SANITARY SEWER PIPE, WATER PIPE OR STORM DRAIN PIPE. THE PLAN SHALL DESCRIBE IN DETAIL THE METHOD FOR REPLACING OR SUPPORTING EXISTING PIPE AND ASSOCIATED SCHEDULE. (I.E. SHUTDOWN/TIE-IN)
- THE CONTRACTOR SHALL EMPLOY ADEQUATE METHODS TO MINIMIZE TURBIDITY IN WATERWAYS DURING ALL PHASES OF THE PROJECT. THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE LAWS AND REGULATIONS CONCERNING WATER POLLUTION AND CONTROL OF EROSION.
- CONTRACTOR SHALL CLEAN THE RIGHT-OF-WAY OF ANY AND ALL TRASH.
- NO FIRES WILL BE ALLOWED. BRUSH AND CONSTRUCTION DEBRIS SHALL BE REMOVED FROM THE SITE.
- LIFT STATION GATE SHALL BE KEPT CLOSED TO CONTROL ACCESS TO THE PROJECT SITE.
- ANY EXISTING UTILITY DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED OR REPLACED IMMEDIATELY WITH LIKE OR BETTER MATERIALS.
- CONTRACTOR SHALL NOT DAMAGE EXISTING TREES LARGER THAN 4 INCHES IN DIAMETER (MEASURED 4 FT. ABOVE THE GROUND) THAT ARE MORE THAN TWELVE FEET FROM CENTERLINE OF NEW INTERCEPTOR. THE CONTRACTOR MUST OBTAIN APPROVAL FROM THE OWNER'S REPRESENTATIVE BEFORE ANY TREES MORE THAN 10-FT FROM CENTERLINE OF INTERCEPTOR CAN BE REMOVED OR TRIMMED.
- IT SHALL BE THE COMPLETE RESPONSIBILITY OF THE CONTRACTOR TO REBUILD THE CONCRETE OR ASPHALT PAVEMENT REPLACEMENT SECTIONS TO THE SAME LINE AND GRADE AS WAS EXISTING PRIOR TO PIPELINE CONSTRUCTION. SEE NOTE ON TEMP. ASPHALT RAMPS.
- ALL NEW TREES REQUESTED BY THE OWNER SHALL BE PLANTED BY A NURSERYMAN LICENSED IN THE STATE OF TEXAS.
- SURVEY POINTS INDICATED AS "CONTROL POINT" (IRON ROD SETS, "X" IN CONC, AND 60D NAILS POINT") SHALL BE USED FOR HORIZONTAL AND VERTICAL SURVEY CONTROL FOR THE PROJECT.
- THE CONTRACTOR SHALL RESTORE AT HIS OWN EXPENSE, TEMPORARY ROADS AND CONSTRUCTION WORK AREAS.
- IN ACCORDANCE WITH TEXAS STATE LAW, AT LEAST 2 DAYS PRIOR TO BEGINNING EXCAVATION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING A TEXAS REGISTERED NOTIFICATION CENTER (I.E. TEXAS ONE CALL, DIG TESS, ETC.). IN ORDER TO HAVE EXISTING UTILITIES LOCATED. DIGTESS: 1-800-344-8377.
- BLASTING WILL NOT BE ALLOWED.
- CONTRACTOR SHALL MAINTAIN AT LEAST ONE LANE OF TRAFFIC ON ALL ROADS AT ALL TIMES, AND CONSTRUCT TEMPORARY BYPASS, IF NECESSARY, IF THE ROADWAY MUST BE CLOSED TO FACILITATE CONSTRUCTION ACTIVITIES. CONTRACTOR SHALL SUBMIT A TRAFFIC CONTROL PLAN TO THE OWNER AND THE RIGHT-OF-WAY OWNER FOR THE ROADWAY FOR APPROVAL NO LESS THAN 14 DAYS IN ADVANCE OF THE PROPOSED ROADWAY CLOSURE. ANY COMMENTS RECEIVED ON THE PLAN BY THE OWNER OR RIGHT-OF WAY OWNER SHALL BE INCORPORATED INTO THE PLAN. THE PLAN SHALL BE PREPARED SPECIFICALLY FOR THIS PROJECT AND SHALL BE SEALED AND SIGNED BY AN ENGINEER LICENSED IN THE STATE OF TEXAS. THE COST TO PREPARE THE TRAFFIC CONTROL PLAN, WHEN REQUIRED, SHALL BE MADE INCIDENTAL TO THE PROJECT. IF AT ANYTIME DURING CONSTRUCTION THE CONTRACTOR'S PROPOSED PLAN OF OPERATION FOR HANDLING TRAFFIC DOES NOT PROVIDE FOR THE SAFE, COMFORTABLE MOVEMENT OF TRAFFIC, THE CONTRACTOR SHALL IMMEDIATELY CHANGE HIS OPERATIONS TO CORRECT THE UNSATISFACTORY CONDITIONS.
- CONTRACTOR SHALL PROVIDE APPROPRIATE SIGNAGE, BARRICADES, FLAGMEN, ETC. REQUIRED TO MAINTAIN SAFE TRAFFIC FLOW AT ALL TIMES FOR ANY WORK ACTIVITY ON OR ADJACENT TO ANY CITY, COUNTY OR TXDOT ROADWAY. ALL TRAFFIC CONTROL MEASURES SHALL BE IN ACCORDANCE WITH TXDOT'S MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.
- CONTRACTOR'S OPERATIONS MUST STAY WITHIN THE EASEMENTS RIGHT OF WAY & NTMWD PROPERTY. ANY DAMAGE OUTSIDE THESE OPERATIONS SHALL BE REPAIRED AND/OR REPLACED AT THE CONTRACTORS EXPENSE. ACCESS ROUTES OR OPERATIONS WHICH FALL OUTSIDE THE DESIGNATED AREAS WILL ONLY BE ALLOWED WITH PRIOR LANDOWNER CONSENT. CONTRACTOR SHALL PROVIDE THE OWNER WITH A COPY OF ANY AGREEMENTS MADE BETWEEN THE LANDOWNER AND THE CONTRACTOR.
- THE CONTRACTOR SHALL PROVIDE A VIDEO TAPE TO THE OWNER DOCUMENTING THE CONDITION OF THE PROJECT SITE AND SURROUNDING AREA PRIOR TO THE START OF ANY CONSTRUCTION. VIDEO TO BE PROVIDED PRIOR TO FIRST PAYMENT TO CONTRACTOR.
- PROVIDE ACCESS FOR LANDOWNERS AT EXISTING ROADS AND DRIVES AT ALL TIMES.
- WHERE NOT OTHERWISE NOTED BY GRADING PLAN RESTORE GROUND TO ORIGINAL GRADE AND PREVENT PONDING OF STORM WATER RUNOFF ON ALL GROUND DISTURBED BY CONSTRUCTION ACTIVITIES.
- CONTRACTOR SHALL PROTECT ALL TREES, LANDSCAPING AND STRUCTURES LOCATED WITHIN THE PROJECT SITE. TREES, LANDSCAPING AND STRUCTURES NOT INDICATED FOR REMOVAL OR TRANSPLANT ON THE PLANS SHALL NOT BE REMOVED OR TRANSPLANTED WITHOUT RECEIVING WRITTEN APPROVAL FROM THE N.T.M.W.D. OR CITY OF ROCKWALL.

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BY P.A.C. DATE 01/06/11

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 PROFESSIONAL ENGINEERS
 Texas Firm F526
 11910 Greenville Ave., Suite 600
 Dallas, Texas (214) 361-7900



10/17/08

NORTH TEXAS MUNICIPAL WATER DISTRICT
 LAKESIDE LIFT STATION IMPROVEMENTS

GENERAL NOTES

BHC
 PROJECT NO.
 2007-104

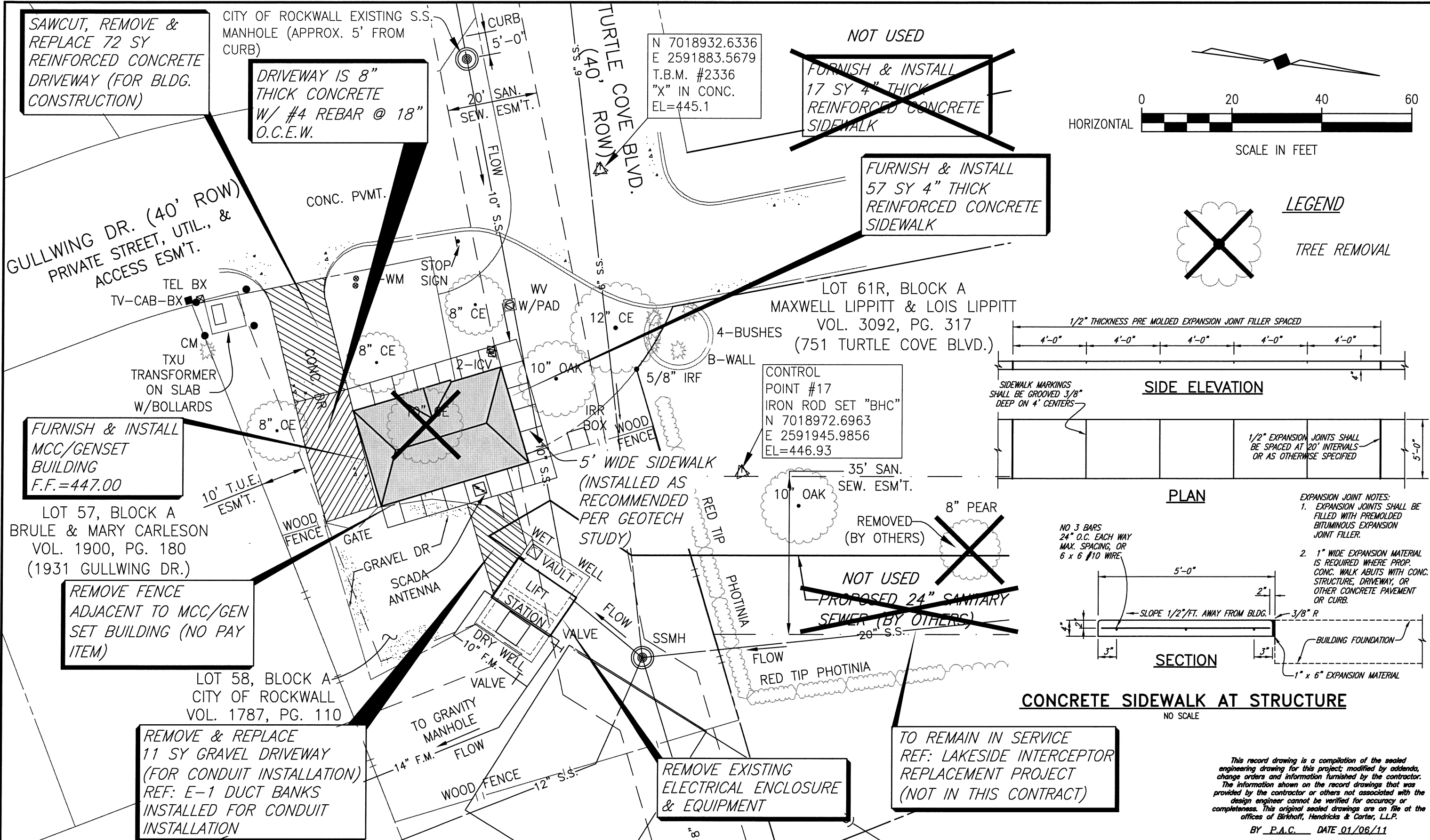
October, 2008

SHEET NO.

C3

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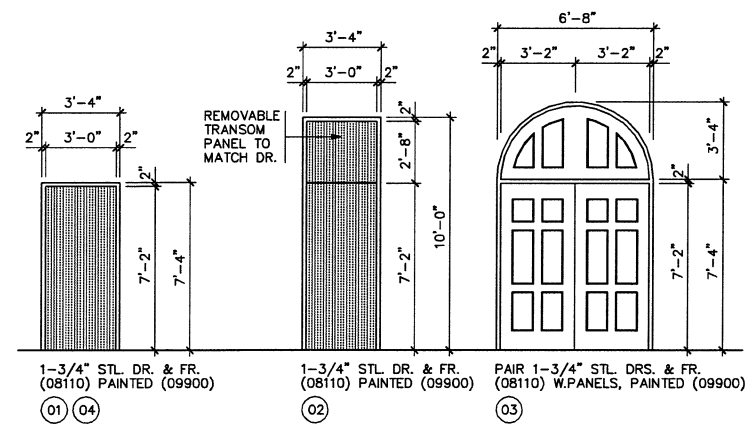
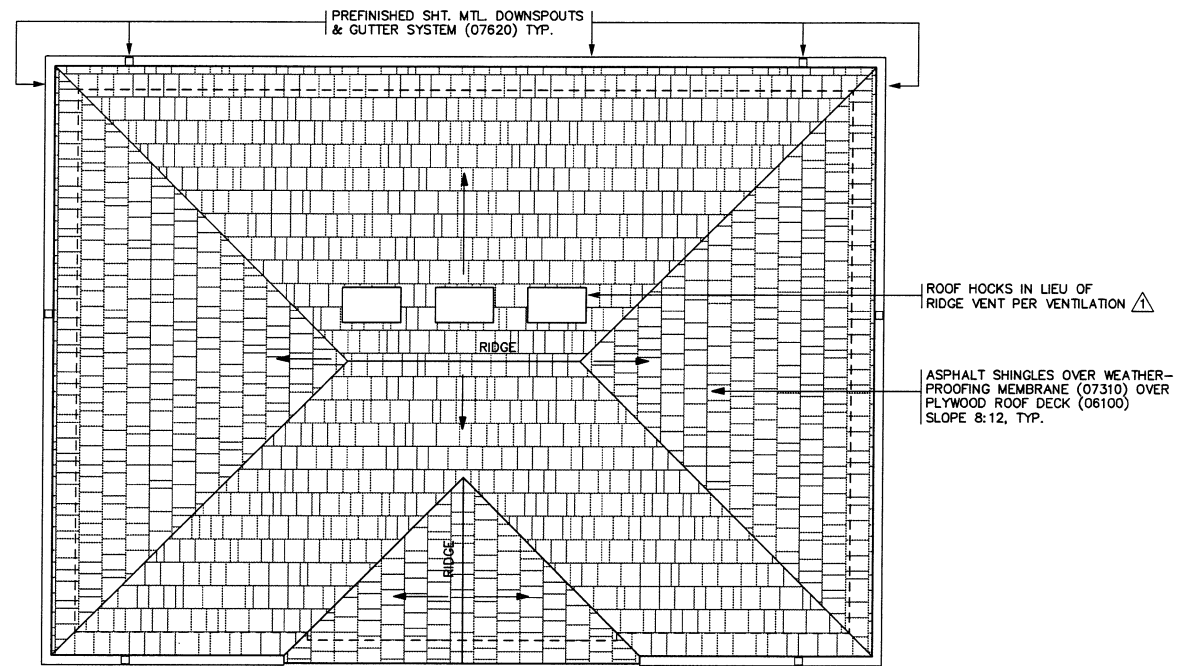
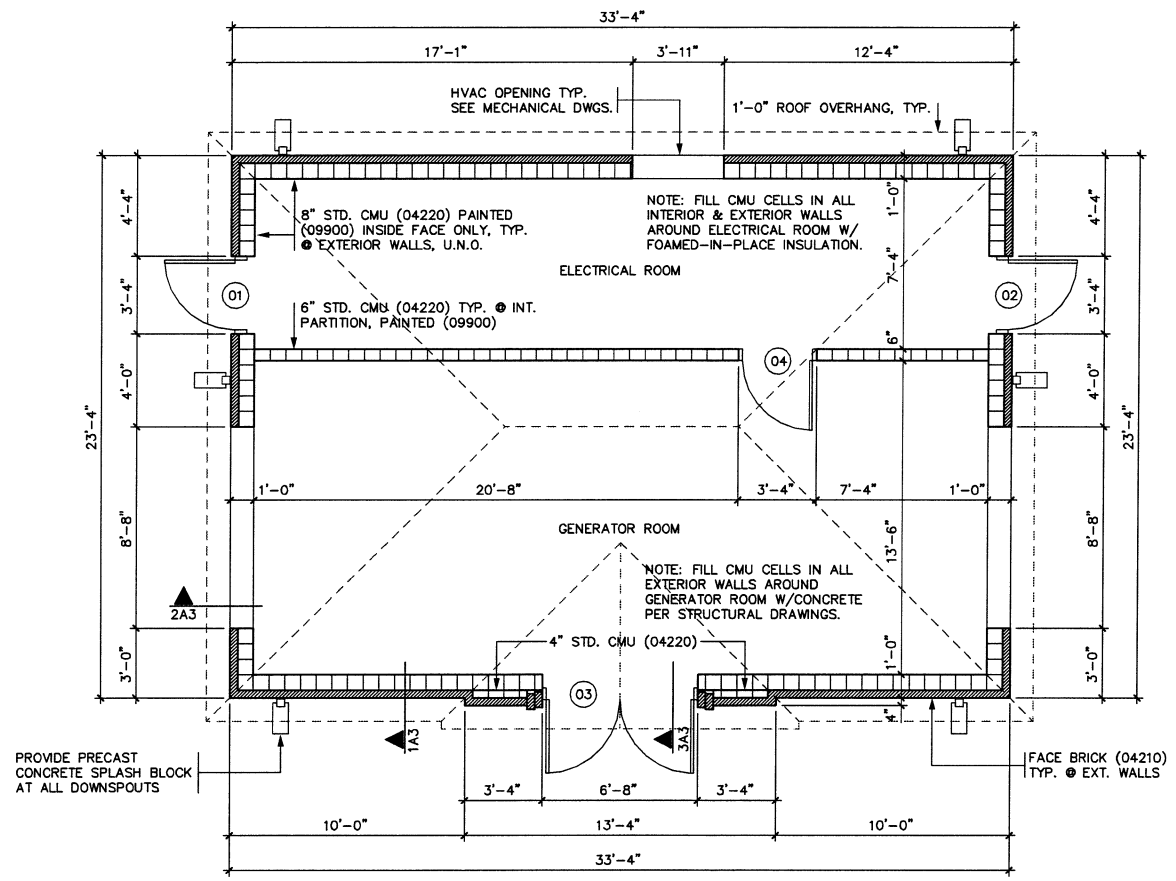
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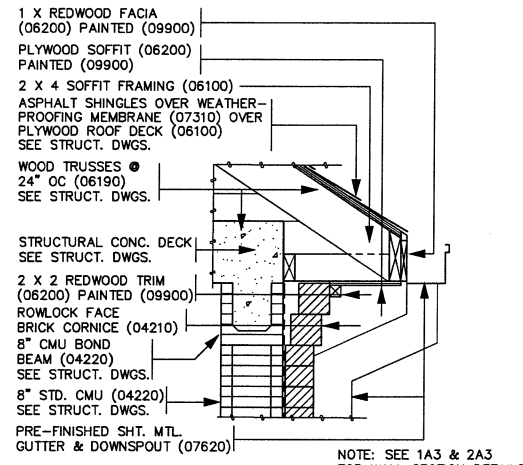
<p>REVISD: 1/7/11 - ANGEL</p> <p>H:\Projects\NTMWD\2007104\Sheets\2007104-ELECBLDG.dwg</p>	<p>BIRKHOFF, HENDRICKS & CARTER, L.L.P. PROFESSIONAL ENGINEERS Texas Firm F526 11910 Greenville Ave., Suite 600 Dallas, Texas (214) 361-7900</p>	<p>PAUL A. CARLINE 85400 LICENSED PROFESSIONAL ENGINEER</p>	<p>NORTH TEXAS MUNICIPAL WATER DISTRICT LAKESIDE LIFT STATION IMPROVEMENTS SITE PLAN</p>	<p>BHC PROJECT NO. 2007-104 October, 2008 SHEET NO. C4</p>
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BY: LKS DATE: 7/23/10



NOTE 1: SEE 4A3-10A3 FOR HEAD, JAMB & THRESHOLD DETAILS.
NOTE 2: DOORS 03 & 04 SHALL BE HIGH STC TYPE.



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CHANGE ORDER NO. 1

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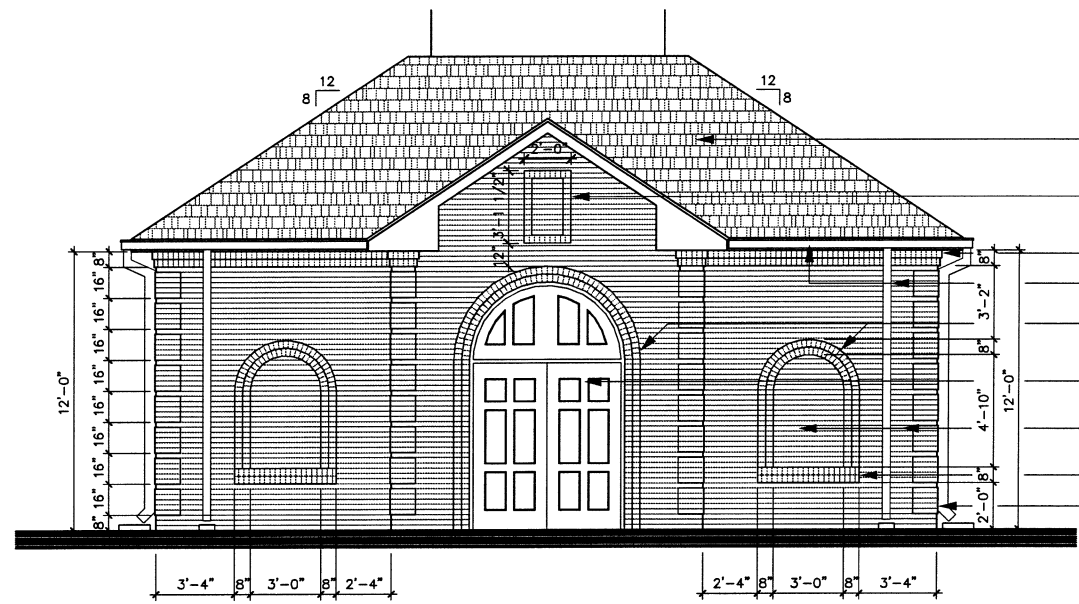
SPURGIN & ASSOCIATES
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NORTH TEXAS MUNICIPAL WATER DISTRICT
LAKESIDE LIFT STATION IMPROVEMENTS
GENERATOR BLDG. FLOOR PLAN, ROOF PLAN, DOOR SCHED.

BHC
PROJECT NO.
2007-104
October, 2008

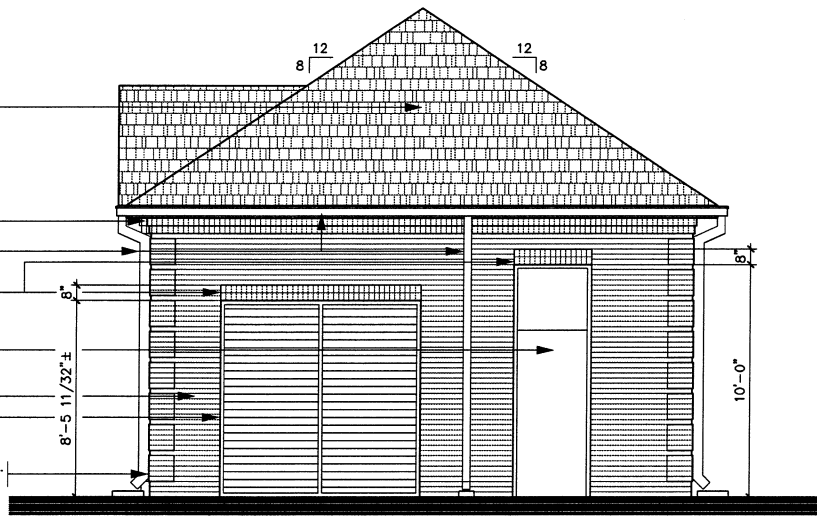
SHEET NO.
A1

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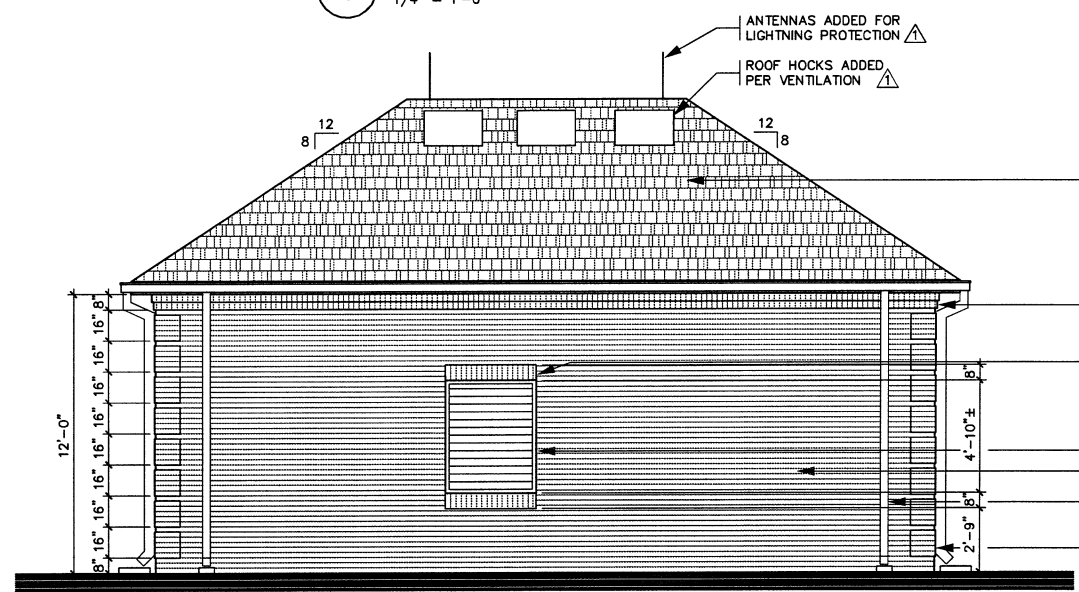
1 WEST ELEVATION
1/4" = 1'-0"

- ASPHALT SHINGLES OVER WEATHER-PROOFING MEMBRANES (07310) OVER PLYWOOD ROOF DECK (06100)
- FACE BRICK SURROUND (04210)
- ROWLOCK FACE BRICK CORNICE (04210) TYP UNLESS NOTED
- PREFINISHED SHT. MTL. GUTTER & DOWNSPOUTS (07620) TYP.
- ROWLOCK FACE BRICK HEADER (04210)
- STL. DOOR/FRAME W/TRANSOM (08110) AS SCHEDULED, PAINTED (09900)
- FACE BRICK (04210) TYP.
- LOUVER-SEE MECH. DWGS.
- ROWLOCK FACE BRICK SILL (04210) TYP UNLESS NOTED
- 5 COURSE FACE BRICK COINS (04210) TYP. AT CORNERS UNLESS NOTED OTHERWISE



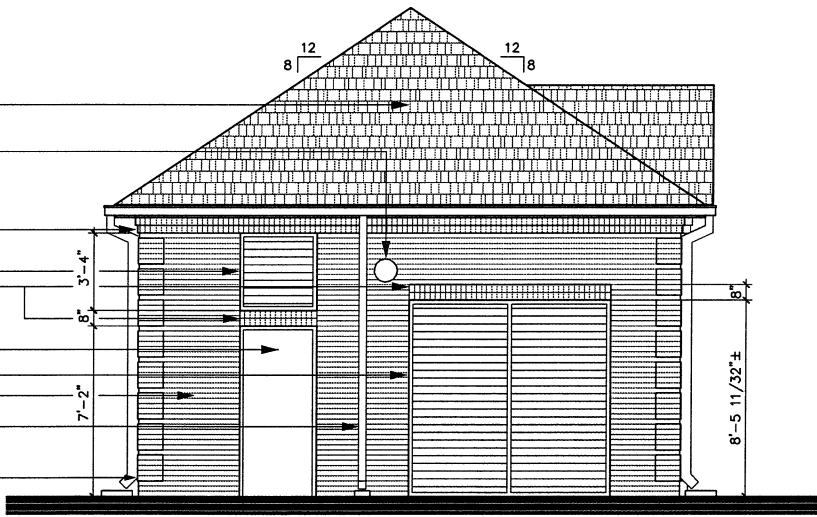
2 SOUTH ELEVATION
1/4" = 1'-0"

NOTE: ALL FACE BRICK HEADERS, SILLS, SURROUNDS, CORNICES, ETC., SHALL BE PROJECTED 1/2" BEYOND FIELD FACE BRICK. WHERE DOUBLE ROWS ARE SHOWN, PROJECT OUTER ROW 1/2" BEYOND INNER ROW.



3 EAST ELEVATION
1/4" = 1'-0"

- ASPHALT SHINGLES OVER WEATHER-PROOFING MEMBRANES (07310) OVER PLYWOOD ROOF DECK (06100)
- MASONRY OPENING FOR EXHAUST PIPE, VERIFY LOCATION MECH. DWGS.
- ROWLOCK FACE BRICK CORNICE (04210) TYP UNLESS NOTED
- LOUVER-SEE MECH. DWGS.
- ROWLOCK FACE BRICK HEADER (04210)
- STL. DOOR/FRAME (08110) AS SCHED. PAINTED (09900)
- LOUVER-SEE MECH. DWGS.
- FACE BRICK (04210) TYP.
- PREFINISHED SHT. MTL. GUTTER & DOWNSPOUTS (07620) TYP.
- 5 COURSE FACE BRICK COINS (04210) TYP. AT CORNERS UNLESS NOTED



4 NORTH ELEVATION
1/4" = 1'-0"

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BY: LKS DATE: 7/23/10

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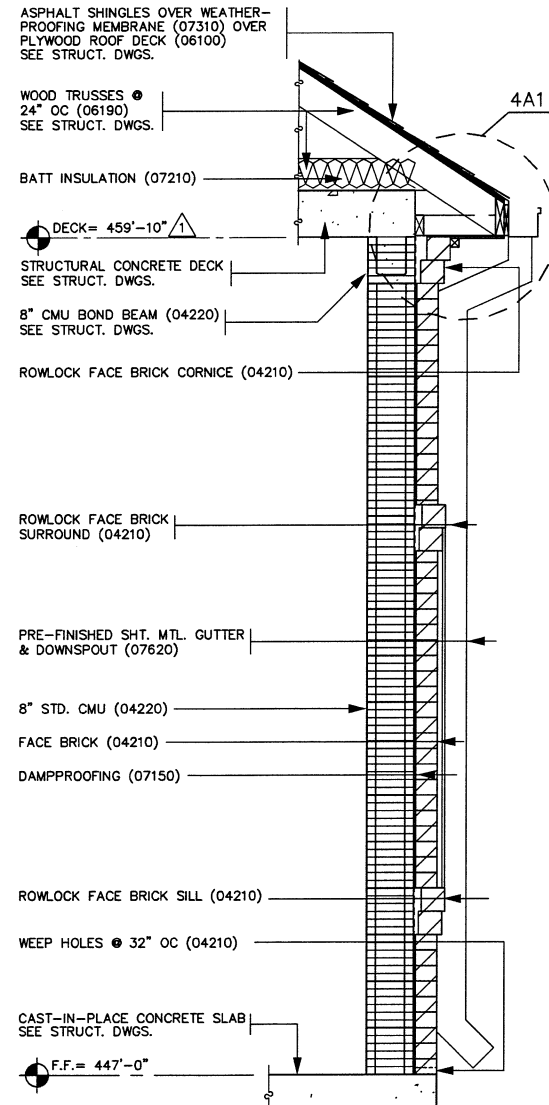
SPURGIN & ASSOCIATES ARCHITECTS
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NORTH TEXAS MUNICIPAL WATER DISTRICT
LAKESIDE LIFT STATION IMPROVEMENTS
GENERATOR BLDG. EXTERIOR ELEVATIONS

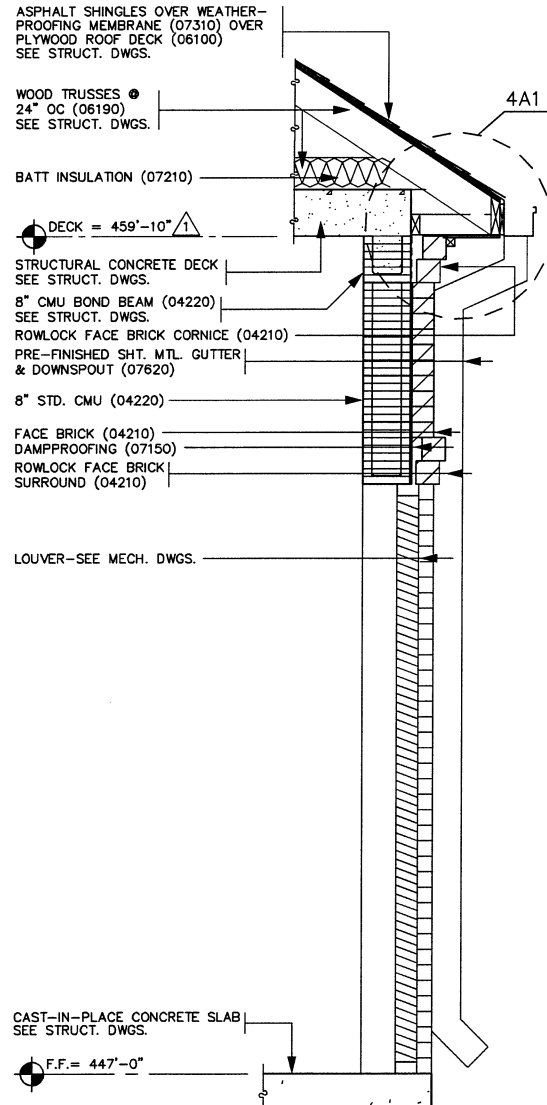
BHC PROJECT NO. 2007-104
October, 2008
SHEET NO. **A2**

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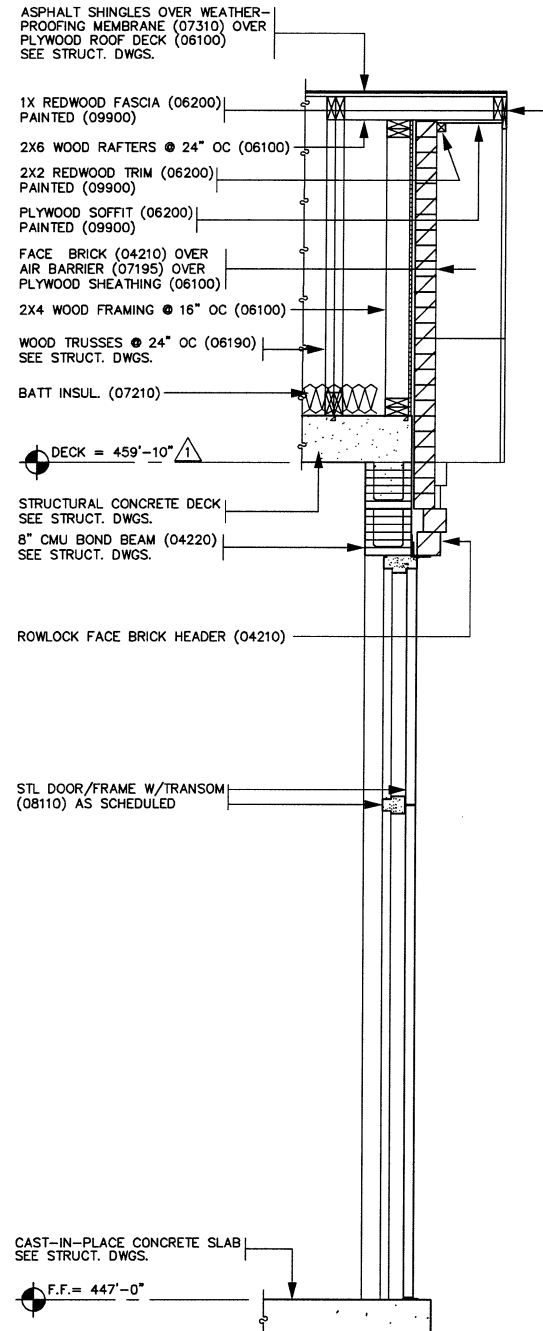
BY: LKS DATE: 7/23/10



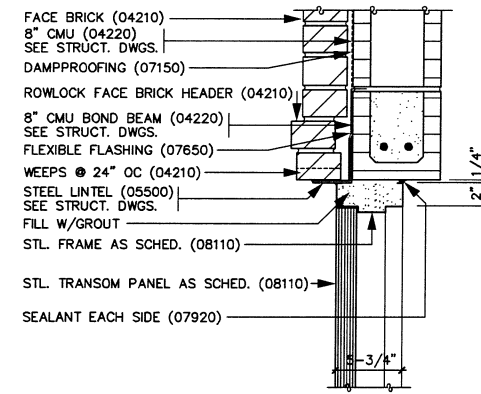
1 WALL SECTION
3/4" = 1'-0"



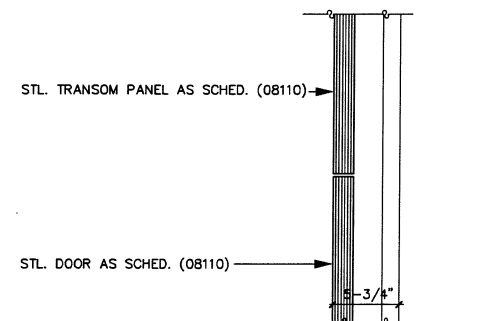
2 WALL SECTION
3/4" = 1'-0"



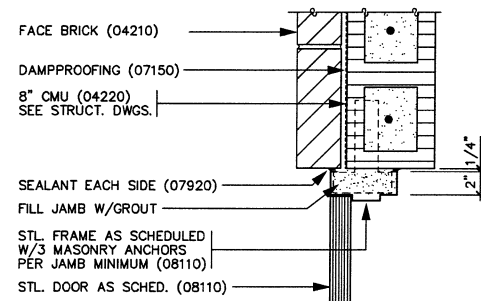
3 WALL SECTION
3/4" = 1'-0"



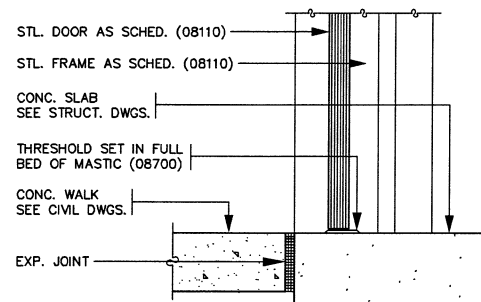
4 HEAD-DRS. 02-03
1 1/2" = 1'-0" DR. 01 SIM.



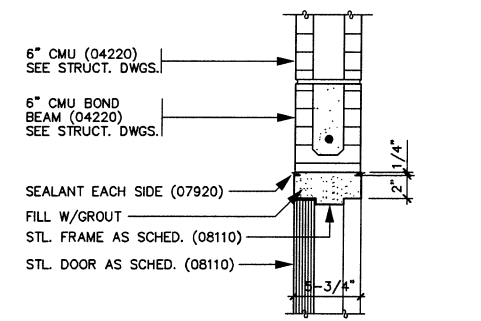
5 TRANS. HEAD-DRS. 02,03
1 1/2" = 1'-0"



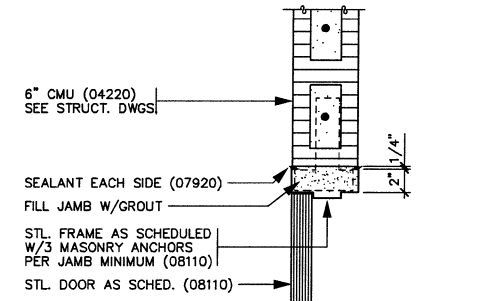
6 JAMB-DRS. 01-02
1 1/2" = 1'-0" DR. 03 SIM.



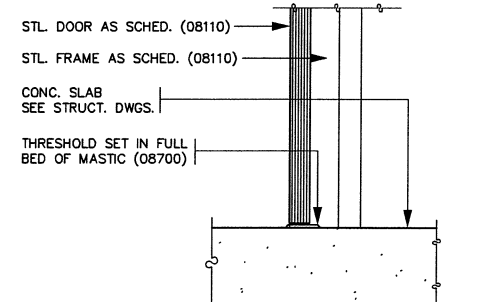
7 THRESHOLD-DRS. 01-03
1 1/2" = 1'-0"



8 HEAD-DR. 04
1 1/2" = 1'-0"



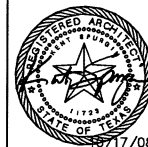
9 JAMB-DR. 04
1 1/2" = 1'-0"



10 THRESHOLD-DR. 04
1 1/2" = 1'-0"

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NORTH TEXAS MUNICIPAL WATER DISTRICT
LAKESIDE LIFT STATION IMPROVEMENTS
GENERATOR BLDG. WALL SECTIONS & MISC. DETAILS

BHC
PROJECT NO.
2007-104
October, 2008

SHEET NO.
A3

GENERAL NOTES:

DRAWINGS

1. ANY BACKGROUND DRAWINGS SHOWN ON THE STRUCTURAL PLANS ARE FOR REFERENCE ONLY. SEE ARCHITECTURAL, MECHANICAL, ELECTRICAL, PLUMBING, AND OTHER DRAWINGS FOR ACTUAL REQUIREMENTS OF NON-STRUCTURAL ELEMENTS.
2. STRUCTURAL DRAWINGS SHOW ELEVATIONS AND RELATIONSHIPS OF STRUCTURAL ELEMENTS IN THEIR FINAL POSITION. CONSTRUCTION MEANS AND METHODS SHALL ALLOW FOR CAMBERS, LOSS OF CAMBER DURING CONSTRUCTION LOADING, DEFLECTIONS, AND NORMAL MOVEMENTS OF STRUCTURAL ELEMENTS DURING CONSTRUCTION.
3. SECTIONS AND DETAILS INDICATED AS TYPICAL SECTIONS AND TYPICAL DETAILS SHALL BE USED AT ALL LOCATIONS WHERE CONDITIONS ARE SIMILAR TO THOSE DESCRIBED IN THE DETAILS.

EXISTING CONDITIONS

1. FIELD VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS PRIOR TO START OF SHOP DRAWINGS OR CONSTRUCTION. WHERE INDICATED ON DRAWINGS, SUBMIT RECORD OF FIELD CONDITIONS TO BIRKHOFF, HENDRICKS & CONWAY, L.L.P.
2. EXISTING CONDITIONS REQUIRING MODIFICATIONS TO DOCUMENTS FOR PROPOSED CONSTRUCTION SHALL BE IMMEDIATELY SUBMITTED TO BIRKHOFF, HENDRICKS & CONWAY, L.L.P.

SUBMITTALS

1. REVIEW OF SUBMITTAL INFORMATION SHALL BE FOR GENERAL REQUIREMENTS OF PROJECT, AND SHALL NOT INCLUDE CHECKING OF DETAILED DIMENSIONS OR DETAILED QUANTITIES, NOR REVIEW OF THE CONTRACTOR'S SAFETY MEASURES IN, ON, OR NEAR THE WORK SITE, OR MEANS AND METHODS OF DOING WORK.
2. CONTRACTOR SHALL CHECK ALL SHOP DRAWING SUBMITTALS FOR COMPLIANCE WITH CONTRACT DOCUMENTS.
3. CONTRACTOR SHALL INDICATE CHECKING AND APPROVAL OF SHOP DRAWINGS BY AFFIXING HIS SHOP DRAWING STAMP WITH THE DATE OF APPROVAL AND NAME OF PERSON APPROVING SHOP DRAWINGS.
4. CONSTRUCTION SCHEDULE SHALL ALLOW 2 WEEKS FOR SHOP DRAWING REVIEW AND RETURN BY THE STRUCTURAL ENGINEER. REVIEW BY THE DESIGN TEAM SHALL BE FOR GENERAL COMPLIANCE WITH THE COMPLIANCE WITH THE CONTRACT DOCUMENTS.
5. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL QUANTITIES, DIMENSIONS, CONSTRUCTION MEANS, METHODS, AND JOB SITE SAFETY, AS WELL AS PROTECTION AND STABILITY OF EXISTING STRUCTURES DURING DEMOLITION.
6. ACTIONS TAKEN ON THE SHOP DRAWINGS SHALL NOT RELIEVE THE CONTRACTOR FROM RESPONSIBILITY OF COMPLIANCE WITH CONTRACT DOCUMENTS.

STRUCTURAL MASONRY

1. MATERIALS SHALL COMPLY WITH THE FOLLOWING:
 - A. HOLLOW MASONRY UNITS - ASTM C90, LIGHTWEIGHT, TYPE N1, MINIMUM COMPRESSIVE STRENGTH OF 1900 PSI ON NET AREA.
 - B. MORTAR - ASTM C 270, TYPE S, WITH MINIMUM COMPRESSIVE STRENGTH OF 1800 PSI.
 - C. COARSE GROUT - ASTM C 476, WITH MINIMUM COMPRESSIVE STRENGTH OF 2500 PSI, MAXIMUM AGGREGATE SIZE OF 1/2 INCH. D. Z TIES - 3/16 INCH DIAMETER, ASTM A 82, GALVANIZED.
2. MASONRY DESIGN BASED ON PRISM STRENGTH OF F'm = 1500 PSI.
3. WALL VERTICAL REINFORCING SHALL CONFORM TO SHEET S3 AND THE FOLLOWING:
 - A. VERTICAL BARS SHALL BE CENTERED IN CELLS.
 - B. BAR LAP SPLICES SHALL BE 60 BAR DIAMETERS, MINIMUM.
 - C. SPLICES SHALL BE STAGGERED WITH NO MORE THAN HALF OF BARS LAPPED WITHIN LENGTH OF LAPS.
4. WALL HORIZONTAL REINFORCING SHALL BE AS FOLLOWS:
 - A. PLACED CONTINUOUSLY IN BOND BEAMS AND GROUTED SOLIDLY IN PLACE.
 - B. LAP SPLICES SHALL BE 48 BAR DIAMETERS, MINIMUM.
 - C. LAP SPLICES SHALL HAVE BARS TIED TOGETHER.
5. JOINT REINFORCING SHALL BE AS FOLLOWS:
 1. STANDARD "DUR-O-WALL", TRUSS TYPE, AT 16 INCHES ON CENTER, UNLESS NOTED OTHERWISE.
 2. PROVIDE TWO HORIZONTAL WIRES IN BLOCK WYTHES.
 3. LAP SPLICES SHALL BE 14 INCHES MINIMUM WITH HORIZONTAL WIRES LAPPED SIDE BY SIDE.
6. ALL CMU EXTERIOR WALLS AROUND THE GENERATOR ROOM SHALL BE FILLED WITH CONCRETE AND ALL OTHER CMU EXTERIOR AND INTERIOR WALLS SHALL BE FILLED WITH FOAM INSULATION, EXCEPT WHERE GROUTED CELLS ARE REQUIRED PER SHEET S3.

CONCRETE REINFORCING

1. ALL CONCRETE REINFORCEMENT SHALL BE OF DOMESTIC MANUFACTURE AND SHALL CONFORM TO ASTM A-615, GRADE 60, U.N.O. FIELD BENT DOWELS SHALL CONFORM TO ASTM A-615, GRADE 40.
2. ALL WELDED WIRE FABRIC SHALL CONFORM TO ASTM A-185.
3. DETAILING OF CONCRETE REINFORCEMENT AND ACCESSORIES SHALL BE PER ACI 315.
4. REINFORCING SHOWN IN SECTIONS AND DETAILS IS SCHEMATIC AND INDICATES THAT REINFORCING EXISTS. PROVIDE REINFORCING AS REQUIRED BY SCHEDULE, NOTE, GENERAL NOTES, AND SPECIFICATIONS.
5. LONGITUDINAL BEAM REINFORCING SHOWN IN SECTION OR DETAIL TO BE CONTINUOUS SHALL HAVE TOP BARS HOOKED AT DISCONTINUOUS ENDS WITH STANDARD 90 DEGREE HOOKS.
6. WHEN PERMITTED, WELDING OF REINFORCEMENT SHALL BE PER AWS D1.4.
7. CONTINUOUS REINFORCEMENT IN UNSCHEDULED SLABS BEAMS AND GRADE BEAMS SHALL NOT BE SPLICED. REINFORCING BARS MAY BE SPLICED ONLY AS SHOWN ON THE DRAWINGS EXCEPT THAT REINFORCING DESIGNATED AS "CONTINUOUS" MAY BE LAP SPLICED 36 BAR DIAMETERS.
8. CONCRETE PROTECTION FOR REINFORCEMENT, INCLUDING PRIMARY, STIRRUPS, TIES, ETC. SHALL BE AS NOTED BELOW, OR PER ACI 318 FOR CONDITIONS NOT NOTED:

CONDITION	FOR CARBONATE LIGHTWEIGHT AND SAND LIGHTWEIGHT AGGREGATES	FOR SILICEOUS AGGREGATES
CONCRETE PLACED AGAINST SOIL	3 INCHES	3 INCHES
FOOTINGS	3 INCHES	3 INCHES
SLABS ON GRADE	1-1/2 INCHES TOP	1-1/2 INCHES TOP
	2 INCHES BOTTOM	2 INCHES BOTTOM
GRADE BEAMS (FORMED)	2 INCHES BOTTOM	2 INCHES BOTTOM
	2 INCHES SIDE	2 INCHES SIDE
	2 INCHES TOP	2 INCHES TOP

DEFORMED BAR ANCHORS

1. DEFORMED BAR ANCHORS (DBA) SHALL BE NELSON, FLUX FILLED DEFORMED BAR ANCHORS, TYPE D2L, WELDED TO STEEL AS SHOWN IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE MANUFACTURER.

CONCRETE

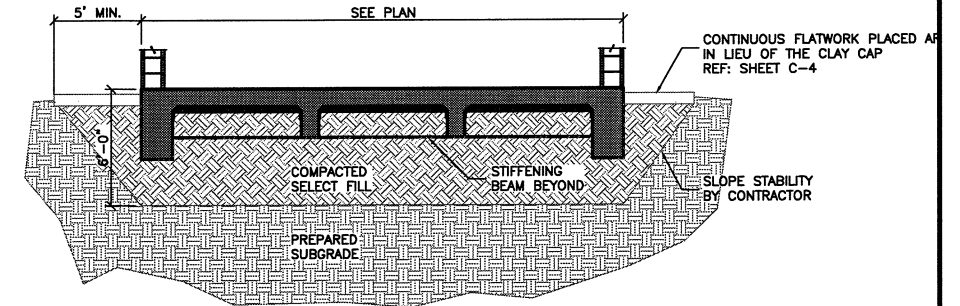
1. CONCRETE PROPORTIONING, MIXING, TRANSPORTING, PLACING, AND CURING SHALL BE PER ACI 301.
2. CONCRETE SURFACES SHALL CONFORM TO TOLERANCE LIMITS PER ACI 117, U.N.O.
3. CONCRETE SHALL HAVE SAND, COARSE AGGREGATES PER ASTM C-33 OR C-330 AS SCHEDULED, TYPE I OR III PORTLAND CEMENT PER ASTM C-150, AND SHALL COMPLY WITH THE FOLLOWING:

USAGE	28 DAY STRENGTH	COARSE AGGR.	MAX. AGGR. SIZE	SLUMP IN.	OTHER
BEAMS AND SLABS	4000 PSI	ASTM C33	1"	4 ± 1	
GRADE BEAMS AND SLAB-ON-GRADE	4000 PSI	ASTM C33	1"	4 ± 1	W/C = 0.45 MAX.

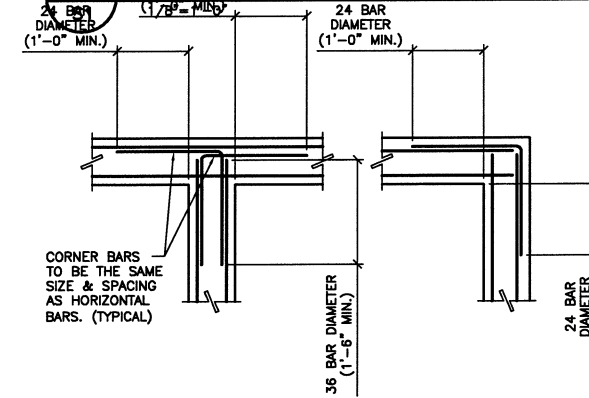
4. JOINTS NOT SHOWN SHALL BE MADE AND LOCATED TO LEAST IMPAIR STRENGTH AND APPEARANCE OF STRUCTURE, AS APPROVED. NO HORIZONTAL JOINTS SHALL BE PERMITTED IN CONCRETE EXCEPT WHERE THEY NORMALLY OCCUR OR WHERE NOTED. VERTICAL JOINTS SHALL OCCUR NEAR CENTERS OF SPANS AT LOCATIONS APPROVED.
5. JOINTS BETWEEN FOOTINGS AND WALLS SHALL BE PREPARED BY ROUGHENING THE SURFACE OF THE CONCRETE IN AN APPROVED MANNER SO THAT THE AGGREGATE SHALL BE EXPOSED UNIFORMLY LEAVING NO LAITANCE, LOOSESED PARTICLES OR DAMAGED CONCRETE.
6. U.N.O., OR AS INDICATED ON ARCHITECTURAL DRAWINGS, PROVIDE CHAMFERS AT EXPOSED EDGES OF CONCRETE.
7. ALL SLEEVES, INSERTS, ANCHORS, AND EMBEDDED ITEMS REQUIRED FOR ADJOINING WORK SHALL BE VERIFIED BY CONTRACTOR AND SHALL BE IN PLACE PRIOR TO CONCRETING.
8. SLAB ON GRADE SHALL HAVE A SMOOTH TROWEL FINISH
9. ROOF SLAB SHALL HAVE A HAND TROWEL FINISH.
10. DRIVEWAYS AND SIDEWALKS SHALL USE 4000 PSI (6 SACK) CONCRETE.

FOUNDATIONS

1. THE SUBSURFACE INFORMATION AND FOUNDATION DESIGN ARE BASED ON "GEO TECHNICAL STUDY, NTMWD LAKESIDE LIFT STATION IMPROVEMENTS, ROCKWALL, TX," REPORT NO. 95237, PREPARED BY KLEINFELDER, DATED MARCH 20, 2008.
2. METHODS OF CONSTRUCTION OF FOUNDATION AND OTHER PORTIONS OF PROJECT SHALL COMPLY WITH THE REPORT.
3. PROVIDE A MINIMUM OF 6 FEET OF SELECT FILL BELOW THE FLOOR SLAB TO REDUCE THE CALCULATED PVR TO 1 INCH OR LESS.
4. THE SELECT FILL SHOULD NOT BE ALLOWED TO EXTEND BEYOND THE BUILDING PERIMETER. HOWEVER, THIS OFTEN OCCURS DURING CONSTRUCTION. AS SUCH, EARTHWORK OPERATIONS SHOULD UNDERCUT THE SUBGRADE AROUND THE BUILDING PERIMETER FOLLOWING GRADE BEAM CONSTRUCTION SO THAT 2 FEET OF ON-SITE CLAY MAY BE PLACED AT THE GROUND SURFACE TO ACT AS A BARRIER TO SURFACE WATER INFILTRATION. THE WIDTH OF THE REPLACEMENT SHOULD BE ENOUGH TO REMOVE THE SELECT FILL, BUT SHOULD ALSO BE NO LESS THAN 5 FEET WIDE. FAILURE TO PROVIDE THIS COULD RESULT IN POTENTIAL DEEP-SEATED SWELL UNDER NO CIRCUMSTANCES SHOULD A "BATH TUB EFFECT" BE CREATED BENEATH THE FLOOR SYSTEM.
5. THE BUILDING AREA SHOULD BE STRIPPED OF EXISTING CONCRETE AND ALSO VEGETATION, ROOTS, OTHER ORGANIC MATERIAL AND DEBRIS BEFORE CONSTRUCTION. THE STRIPPING DEPTH SHOULD BE BASED ON FIELD OBSERVATIONS WITH PARTICULAR ATTENTION GIVEN TO UNEVEN TOPOGRAPHY, AND EXCESSIVELY WET SOILS. SPECIAL CARE SHOULD BE GIVEN TO THE REMOVAL OF TREE STUMPS AND ASSOCIATED ROOT SYSTEMS. AFTER EXCAVATING, THE STRIPPED SUBGRADE SHOULD BE FIRM AND ABLE TO SUPPORT THE CONSTRUCTION EQUIPMENT WITHOUT DISPLACEMENT. SOFT OR YIELDING SUBGRADE SHOULD BE CORRECTED AND MADE STABLE BEFORE CONSTRUCTION PROCEEDS. PROOF ROLLING SHOULD BE USED TO DETECT SOFT SPOTS OR PUMPING SUBGRADE AREAS. PROOF ROLLING SHOULD BE PERFORMED USING A HEAVY PNEUMATIC TIRED ROLLER, LOADER TRUCK, OR SIMILAR EQUIPMENT WEIGHING AT LEAST 25 TONS. THE PROOF ROLLING IS INTENDED TO ACHIEVE ADDITIONAL COMPACTION AND TO LOCATE UNSTABLE AREAS. THE PROOF ROLLING SHOULD BE OBSERVED BY THE OWNERS REPRESENTATIVE. OBSERVED SOFT SPOTS OR AREAS OF PUMPING SUBGRADE OBSERVED SHOULD BE UNDERCUT AND REWORKED. WHERE FILL PLACEMENT IS PLANNED, THE PROOF ROLLING SHOULD OCCUR ONCE THE EXISTING SOILS HAVE BEEN EXCAVATED, BUT BEFORE THE FILL IS PLACED AND COMPACTED. THE PROOF ROLLING IS INTENDED NOT ONLY FOR THE BUILDING AND FOUNDATION AREA, BUT ALSO WITHIN ALL AREAS OF PAVEMENT, SIDEWALKS, AND OTHER LOCATIONS THAT WILL SUPPORT SURFACE LOADS.
6. PRIOR TO FILL PLACEMENT, THE EXPOSED SUBGRADE SHOULD BE SCARIFIED TO A DEPTH OF 8 INCHES; ITS MOISTURE CONTENT ADJUSTED, AND RECOMPACTED TO THE DENSITY SPECIFIED FOR FILL BELOW.
7. SELECT FILL - NON-EXPANSIVE SELECT FILL SHOULD BE FREE OF ROOTS AND ORGANIC DEBRIS. THE SOIL SHOULD BE SANDY CLAY OR CLAYEY SAND HAVING A PLASTICITY INDEX BETWEEN 7 AND 15, A LIQUID LIMIT LESS THAN 35, AND A MAXIMUM OF 70 PERCENT PASSING SIEVE #200. THE SELECT FILL MATERIAL SHOULD BE COMPACTED TO 95 TO 100 PERCENT OF THE MAXIMUM DRY DENSITY AS DETERMINED BY THE STD PROCTOR TEST, ASTM D 698. IN CONJUNCTION WITH THE COMPACTING OPERATIONS, THIS FILL MATERIAL SHOULD BE BROUGHT TO BETWEEN 1 PERCENT BELOW TO 4 PERCENT ABOVE THE OPTIMUM MOISTURE CONTENT (-1 TO +4).
8. FILL PLACEMENT, COMPACTION AND TESTING - FILL MATERIAL FOR THIS PROJECT SHOULD BE PLACED IN LOOSE HORIZONTAL LIFTS NOT EXCEEDING 8 INCHES IN UNCOMPACTED THICKNESS. THE FILL MATERIAL SHOULD BE UNIFORM WITH RESPECT TO MATERIAL TYPE AND MOISTURE CONTENT. CLODS AND CHUNKS OF MATERIAL SHOULD BE BROKEN AND THE FILL MATERIAL MIXED AS NECESSARY, SO THAT A MATERIAL OF UNIFORM MOISTURE AND DENSITY IS OBTAINED FOR EACH LIFT. WATER REQUIRED TO BRING THE FILL MATERIAL TO THE PROPER MOISTURE CONTENT SHOULD BE APPLIED EVENLY THROUGH EACH LAYER. A FIELD DENSITY TEST SHOULD BE TAKEN AS EACH LIFT OF FILL MATERIAL IS PLACED. FOR SMALL AREAS OR CRITICAL AREAS, THE FREQUENCY OF TESTING MAY NEED TO BE INCREASED. EACH LIFT SHOULD BE COMPACTED, TESTED, AND APPROVED BEFORE ANOTHER LIFT IS ADDED. THE PURPOSE OF THE FIELD DENSITY TESTS IS TO PROVIDE SOME INDICATION THAT UNIFORM AND ADEQUATE COMPACTION IS BEING OBTAINED. THE ACTUAL QUALITY OF THE FILL, AS COMPACTED, SHOULD BE THE RESPONSIBILITY OF THE CONTRACTOR AND SATISFACTORY RESULTS FROM THE TESTS SHOULD NOT BE CONSIDERED AS A GUARANTEE OF THE QUALITY OF THE CONTRACTOR'S FILLING OPERATIONS.

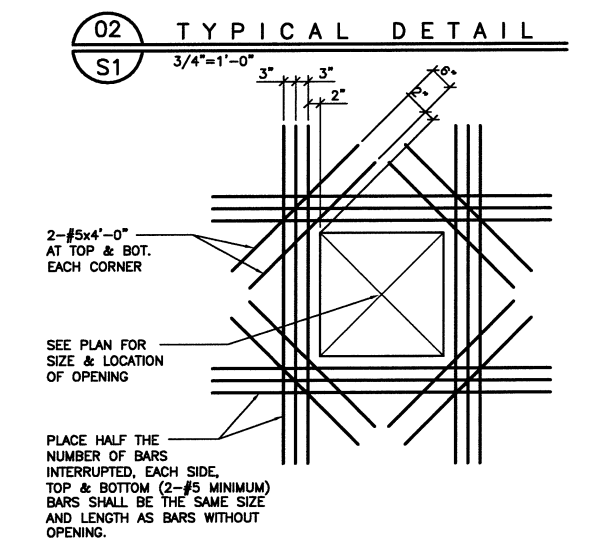


01 SCHEMATIC SECTION



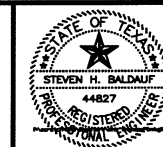
NOTE: PROVIDE CORNER BARS FOR BOTTOM AND INTERMEDIATE BARS IN GRADE BEAMS

02 TYPICAL DETAIL



03 TYPICAL DETAIL

THE SEAL APPEARING ON THIS DOCUMENT WAS AUTHORIZED BY: STEVEN H. BALDAUF, P.E. 44827 ON AUGUST 05, 2010



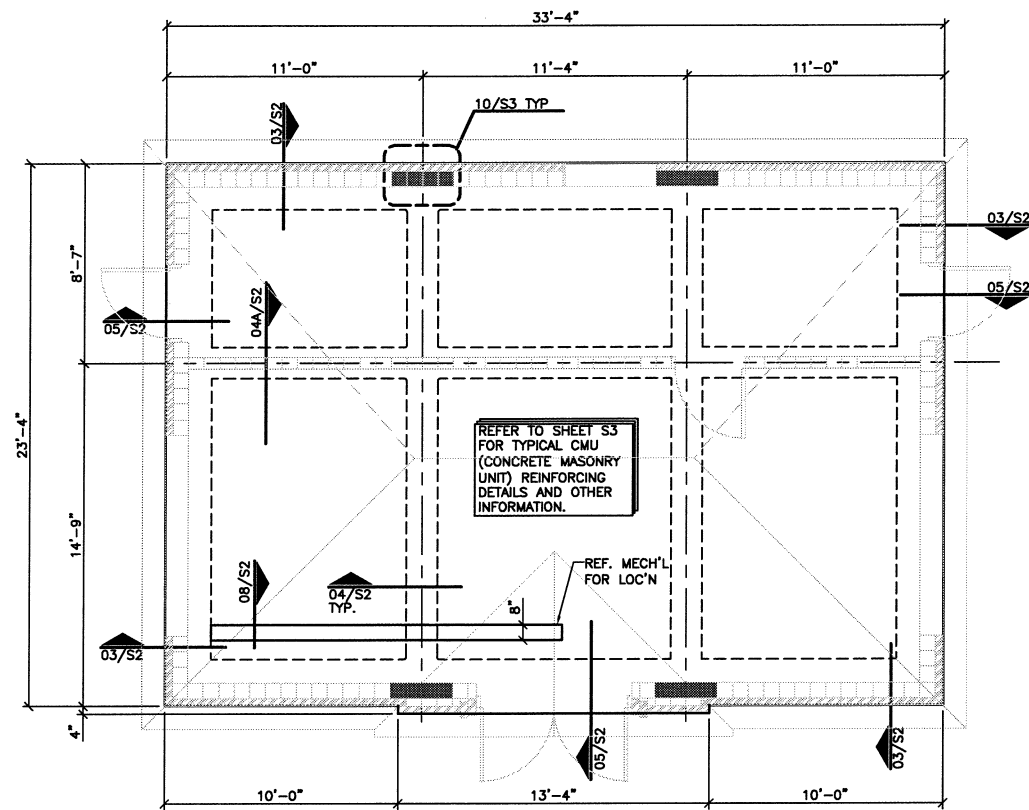
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214-341-7575 FAX 214-341-4850
BHA JOB NUMBER 2006150

NORTH TEXAS MUNICIPAL WATER DISTRICT
LAKESIDE LIFT STATION IMPROVEMENTS
GENERAL NOTES AND TYPICAL DETAILS

BHC PROJECT NO. 2007-104
August, 2010

SHEET NO. **S1**

CHANGE ORDER NO. X
FIELD CHANGE
ADDENDUM

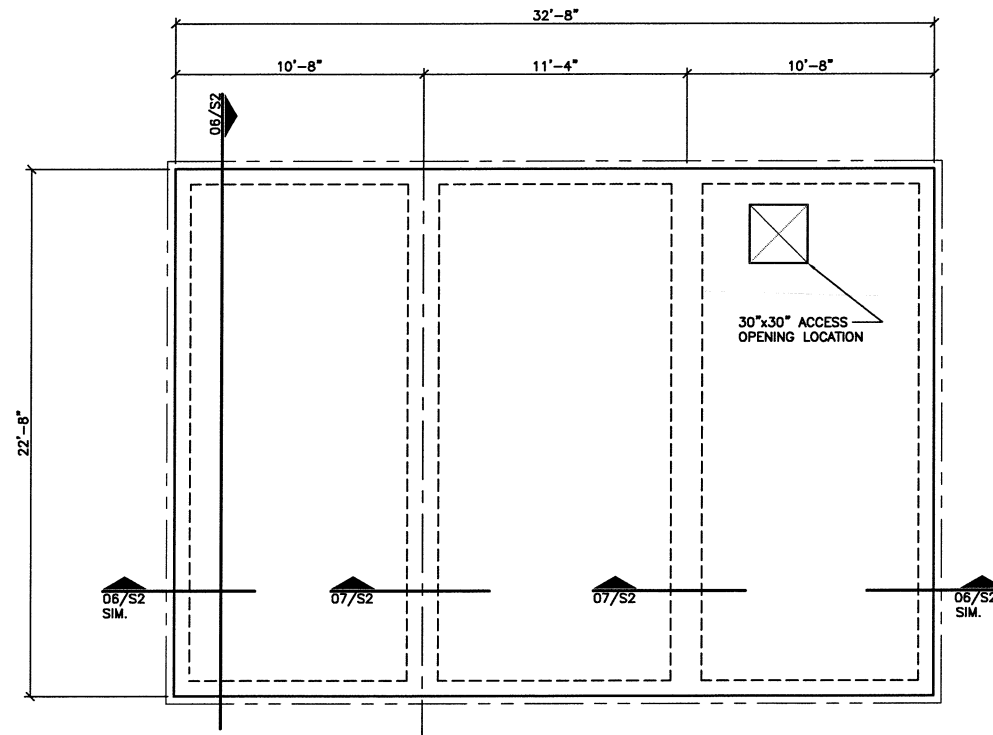


PLAN NORTH

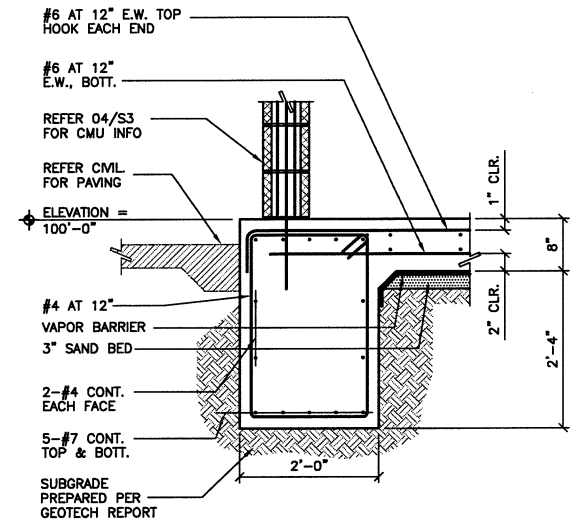


01 FOUNDATION PLAN
S2 1/4"=1'-0"

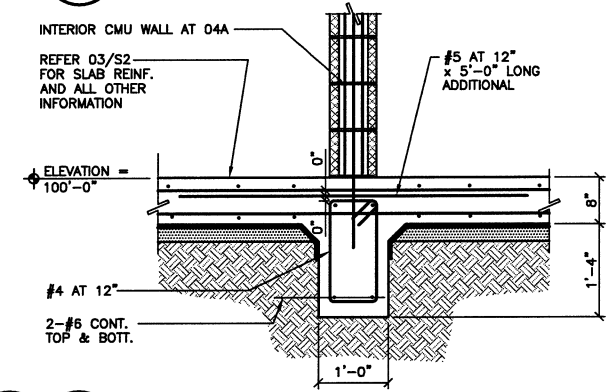
1. REFERENCE T.O.C. ELEV=100'-0" (447.00' = 100'-0")



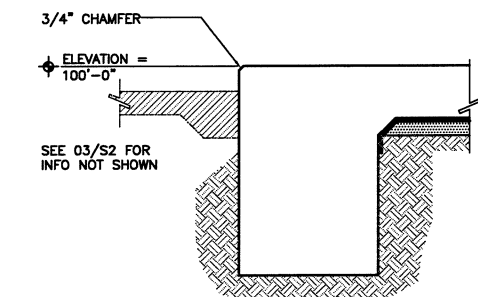
02 CEILING FRAMING PLAN
S2 1/4"=1'-0"



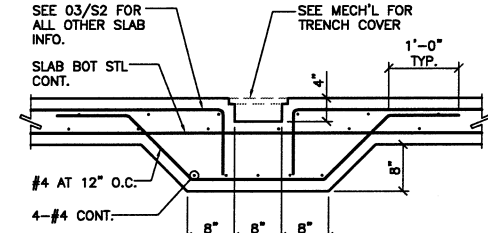
03 TYPICAL SECTION
S2 N.T.S.



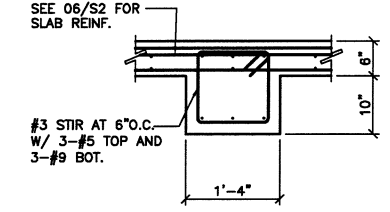
04 TYPICAL SECTION
S2 N.T.S.



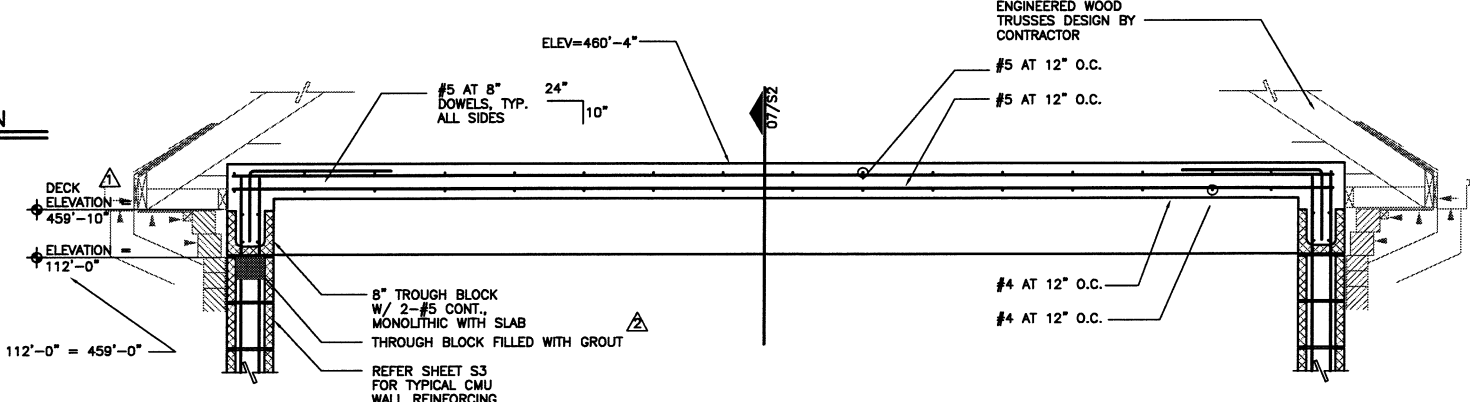
05 TYPICAL SECTION
S2 N.T.S.



08 TYPICAL SECTION
S2 N.T.S.



07 TYPICAL SECTION
S2 N.T.S.



06 TYPICAL ROOF SECTION
S2 3/4"=1'-0"

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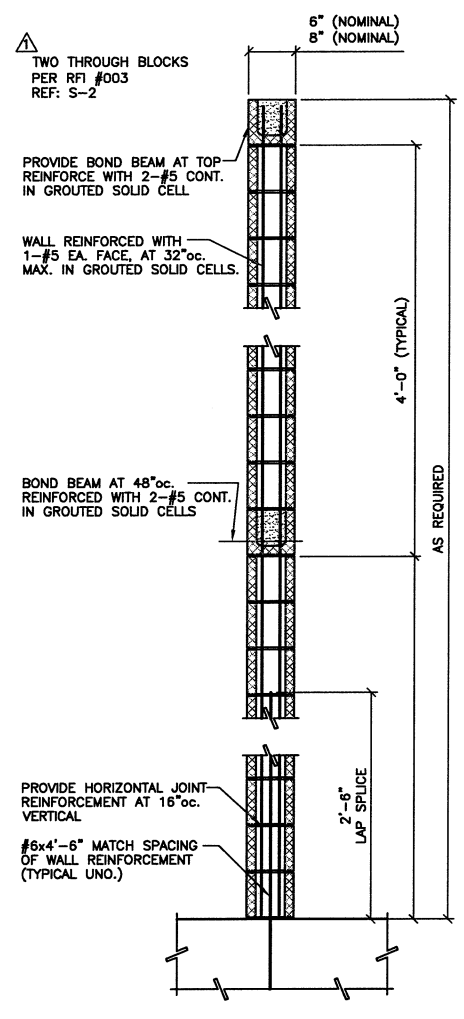
BALDAUF & HERRIN & ASSOCIATES, INC.
STRUCTURAL ENGINEERS
9603 WHITE ROCK TRAIL, SUITE 207
DALLAS, TX 75238
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BHA JOB NUMBER 2006150

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NORTH TEXAS MUNICIPAL WATER DISTRICT
LAKESIDE LIFT STATION IMPROVEMENTS
PLANS, SECTIONS AND DETAILS

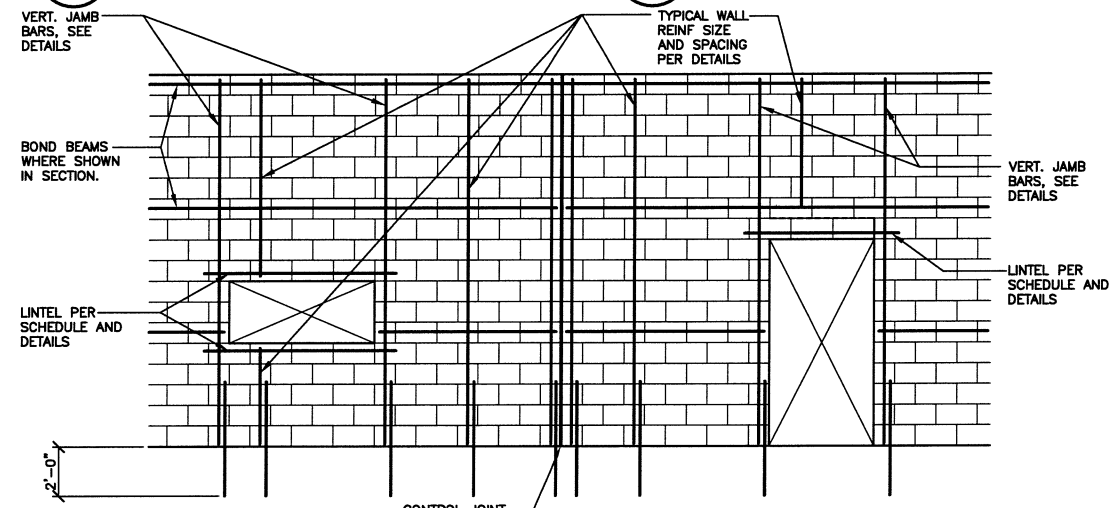
BHC PROJECT NO. 2007-104
August, 2010
SHEET NO. **S2**

CHANGE ORDER NO. X
FIELD CHANGE **RFI #003 6/9/2009**
ADDENDUM **CONSTRUCTION CHANGE DIRECTIVE No.1 2/13/2009**



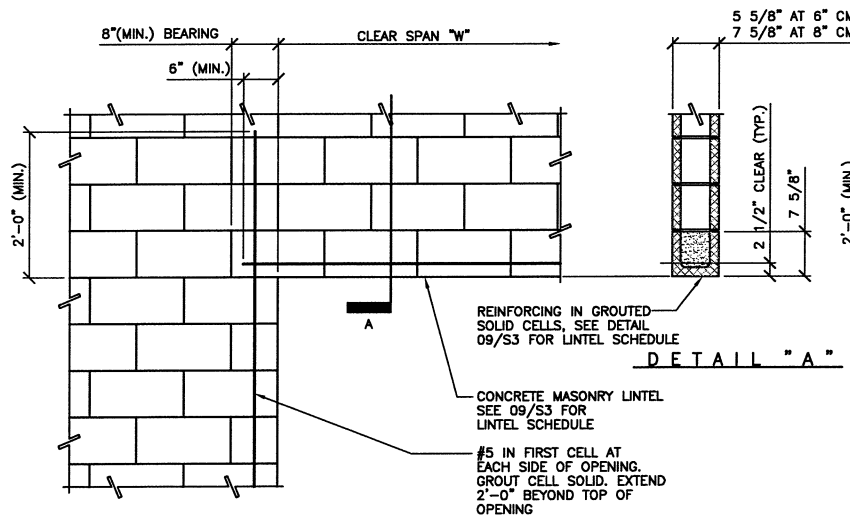
MASONRY WALL REINFORCING

04 TYPICAL DETAIL
S3 3/4"=1'-0"



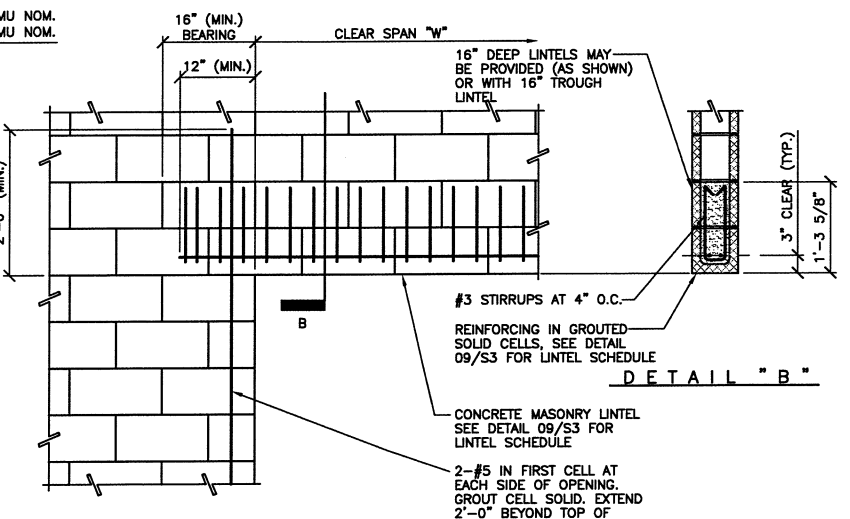
05 TYPICAL DETAIL
S3 3/4"=1'-0"

09 TYPICAL DETAIL
S3 3/4"=1'-0"



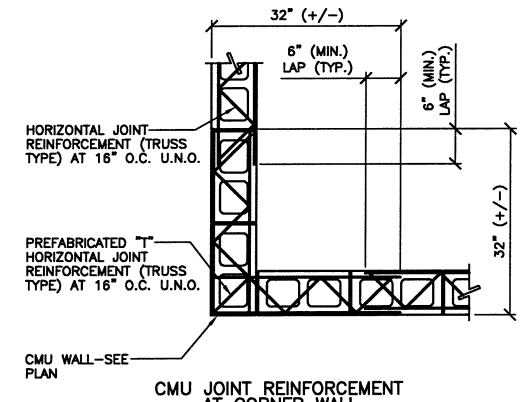
SIMPLY SUPPORTED 6" AND 8" CMU LINTEL

01 TYPICAL DETAIL
S3 3/4"=1'-0"



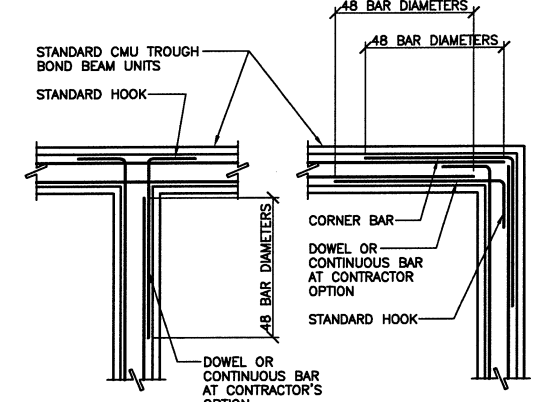
SIMPLY SUPPORTED 16" CMU LINTEL

02 TYPICAL DETAIL
S3 3/4"=1'-0"



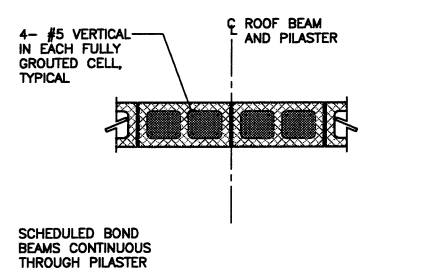
CMU JOINT REINFORCEMENT AT INTERSECTING WALL

06 TYPICAL DETAIL
S3 3/4"=1'-0"



BOND BEAM CORNER BAR REINFORCEMENT

07 TYPICAL DETAIL
S3 3/4"=1'-0"



10 TYPICAL DETAIL
S3 3/4"=1'-0"

CONCRETE MASONRY LINTEL SCHEDULE			
"W" (CLEAR SPAN)	CMU LINTEL UNIT	REINFORCING	DETAIL
2'-0" TO 4'-0"	N x8"x16"	2-#4	8" TROUGH
4'-0" TO 6'-0"	N x8"x16"	2-#5	8" TROUGH
6'-0" TO 8'-0"	N x16"x16"	2-#5 WITH #3 STIRRUPS AT 4" O.C.	16" TROUGH
8'-0" TO 10'-0"	N x16"x16"	2-#6 WITH #3 STIRRUPS AT 4" O.C.	16" TROUGH

STEEL LINTEL SCHEDULE			
"W" (CLEAR SPAN)	SIZE	DETAIL	MIN. BEARING LENGTH
10'-0" TO 12'-0"	W8x10 W/ 3/8" x 7" PL	I	8"

NOTES: "N" IS THE NOMINAL WIDTH OF MASONRY WALL.

- PROVIDE CMU LINTEL AT ALL CONCRETE MASONRY OPENINGS UNLESS STEEL LINTELS ARE
- PROVIDED PER DETAILS & SCHEDULE. REFERENCE ARCHITECTURAL AND MECHANICAL FOR SIZE AND LOCATIONS OF OPENINGS. NOT ALL CMU OPENINGS/PENETRATIONS ARE INDICATED OR SHOWN, AND IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE, VERIFY AND PROPERLY SIZE ALL CMU WALL OPENINGS REQUIRED FOR DOORS, WINDOWS, LOUVERS, DUCTWORK, PIPING, FANS, ETC. ALL MASONRY OPENINGS ARE TO BE SHORED UNTIL THE MASONRY HAS CURED SUFFICIENTLY (72 HOURS, MIN.).

CONCRETE MASONRY/STEEL LINTEL SCHEDULE

03 TYPICAL DETAIL
S3 3/4"=1'-0"

STEEL LINTEL SCHEDULE			
DETAIL	SIZE	DETAIL	MINIMUM BEARING LENGTH
LESS THAN 4'-0"	2-L3 1/2"x2 1/2"x1/4"	I	8"
4'-0" TO 6'-0"	2-L4"x3 1/2"x1/4"	I	8"
6'-0" TO 6'-8"	2-L4"x3 1/2"x5/16"	I	8"
8'-0"	2-L5"x3 1/2"x5/16"	I	8"
8'-6"	2-L6"x3 1/2"x3/8"	I	8"
10'-0" TO 12'-0"	W8x10 WITH PL3/8"x7"	I	8"

NOTES:

- PROVIDE (1) ANGLE FOR BRICK VENEER LINTEL OF APPROXIMATE SIZE WITH ASSOCIATED SPAN.
- STEEL LINTELS MAY BE OPTED FOR AND PROVIDED BY CONTRACTOR IN LIEU OF CMU LINTEL INDICATED IN DETAIL 09/S3.
- REINFORCE CMU JAMBS / SIDE CORES BENEATH STEEL LINTEL BEARING SIMILAR TO DETAIL 3/S3.

STEEL LINTEL SCHEDULE

08 TYPICAL DETAIL
S3 3/4"=1'-0"

CHANGE ORDER NO. X RFI #003 6/9/2009
FIELD CHANGE
ADDENDUM

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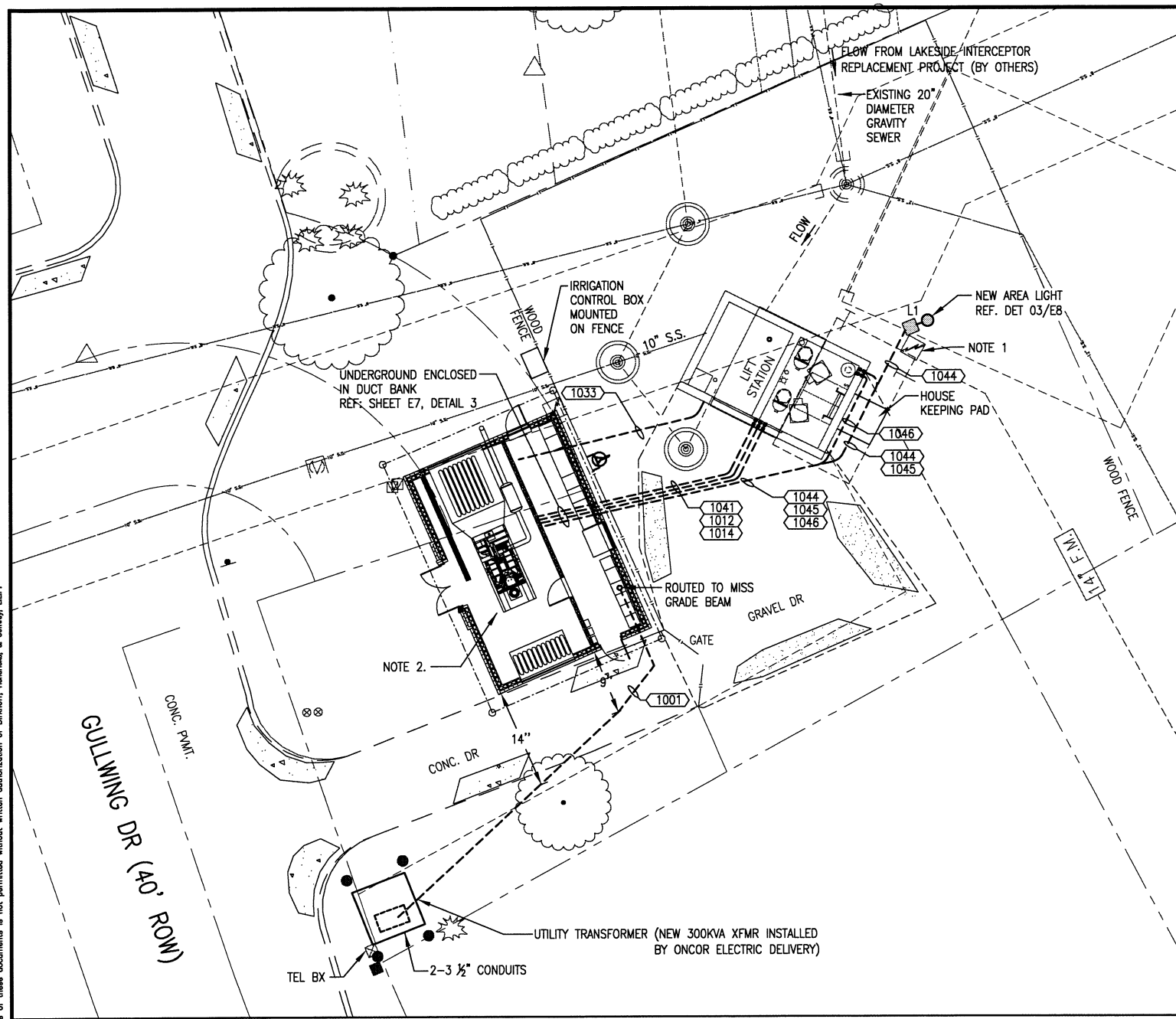


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BHA JOB NUMBER 2006150

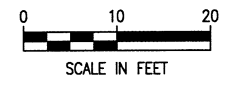
NORTH TEXAS MUNICIPAL WATER DISTRICT
LAKESIDE LIFT STATION IMPROVEMENTS
CONCRETE MASONRY UNIT SECTIONS AND DETAILS

BHC PROJECT NO. 2007-104
August, 2010
SHEET NO. **S3**

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- NOTES:
1. DEMOLISH EXISTING ELECTRICAL SERVICE AFTER NEW SERVICE IS OPERATIONAL.
 2. REFERENCE SHEET E-6 FOR LAYOUT INSIDE THE LIFT STATION



ELECTRICAL SITE PLAN

ELECTRICAL SITE & PLAN SYMBOL LEGEND			
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
(A)	LIGHT FIXTURE - LETTER DENOTES FIXTURE TYPE	⊠	MAGNETIC MOTOR STARTER
HA	HID WALL MOUNTED FIXTURE - LETTER DENOTES FIXTURE TYPE	⊞	DISCONNECT SWITCH - HEAVY DUTY TYPE
(A)	FLUORESCENT FIXTURE - RECESSED, SURFACE OR WALL MOUNTED	⊞	CONTACTOR
⊞	EMERGENCY POWER PACK FIXTURE - WALL MOUNTED	⊞	EXPLOSION-PROOF CONDUIT SEAL
---	EXPOSED CONDUIT RUN	HH	HAND HOLE
---	CONCEALED OR UNDERGROUND CONDUIT RUN	CS	CONTROL STATION. REF CONTROL SCHEMATICS FOR TYPE.
→	CIRCUIT HOME RUN TO PANELBOARD	⌒	FLEXIBLE CONDUIT
S	WALL SWITCH, SPST	⊞	CONDUIT TEE FITTING
S ₂	WALL SWITCH, 2 POLE	⊞	CONDUIT FITTING LB, LR, ETC.
S ₃	WALL SWITCH, 3-WAY	⊞	CROSS CONDUIT FITTING
S _M	MOTOR RATED SWITCH WITH OVERLOADS	⊞	WALL MOUNTED THERMOSTAT
⊞ WP	DUPLEX RCPT & GFCI DEVICE MOUNTING IN WEATHERPROOF BOX & COVERS	—OHE—	OVERHEAD ELECTRICAL LINES
⊞	RCPT-20A 125V 2P 3W GND. DUPLEX-12" UP OR AS NOTED	WP	WEATHERPROOF
⊞ OR ⊞	JUNCTION BOX - WALL OR CEILING MOUNTED	GFI	GROUND FAULT INTERRUPTER
⊞	MOTOR LOCATION	E.C.	EMPTY CONDUIT
⊞	COMBINATION FUSED DISCONNECT SW./ MAGNETIC MOTOR STARTER	⊞122	CONDUIT AND CABLE TAG NUMBER. REF SCHEDULE
I.S. ⊞	INTRUSION SWITCH	⊞	TEMPERATURE TRANSMITTER
⊞	ANTENNA		

Luminaire Schedule										
Symbol	Qty	Volt	Label	Arrangement	Lamp	Lumens	LLF	Manufacturer	Description	Comments
⊞	1	120	L	SINGLE	70W HPS	6300	.80	GARCO	GULLWING G13-3XL-70HPS-120-BRP-F	INTERNAL HOUSE SIDE SHIELD

Luminaire Location Summary						
Pole #	Label	Mtg. Height	Orient	Tilt	Distribution	Comment
1	L	14 FT.	90°	0	TYPE III	CLEAR, FLAT LENS, FULL CUTOFF

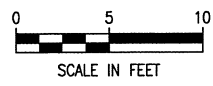
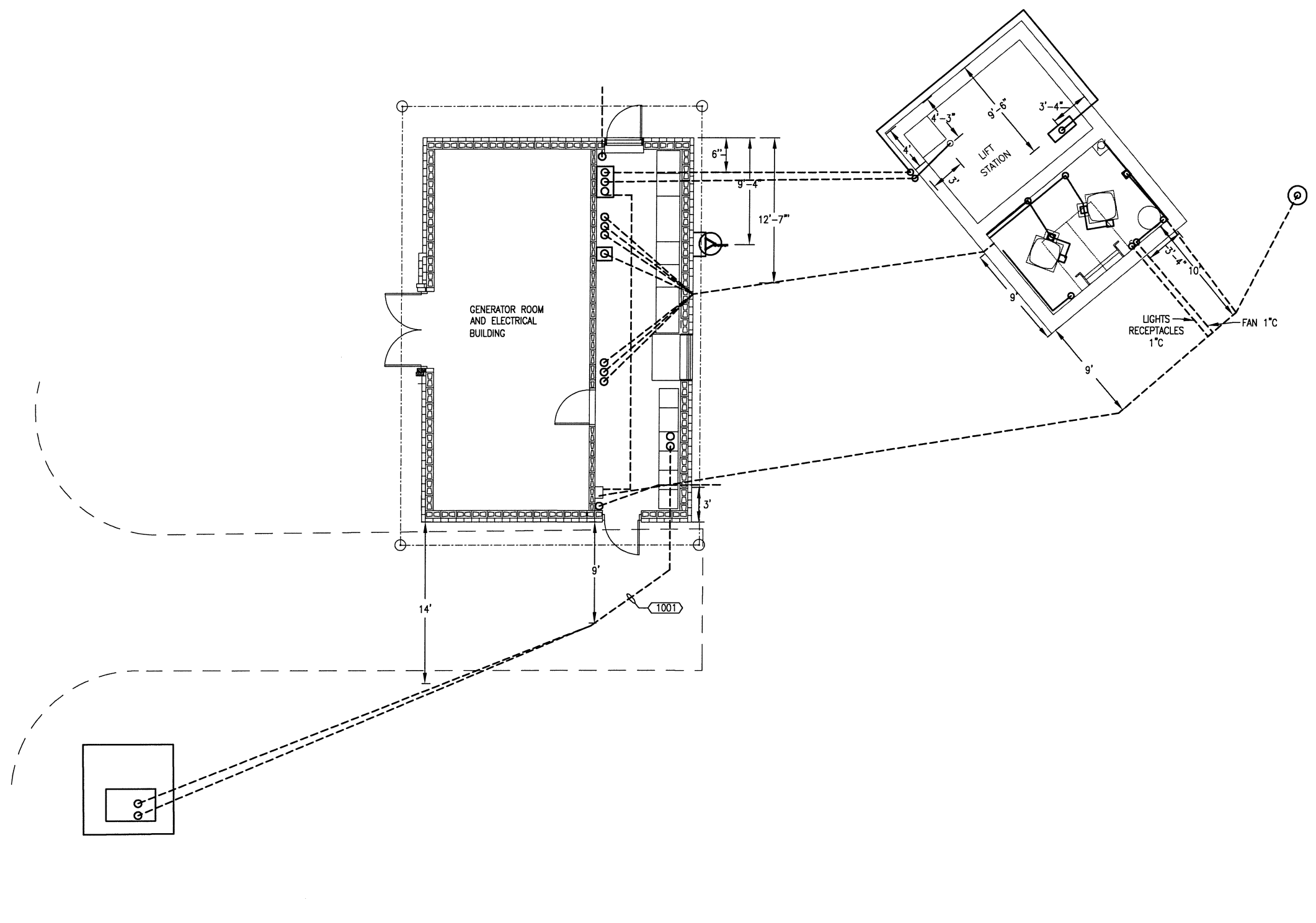
- NOTES:
1. PHOTOMETRIC DATA USED IS BASED ON ESTABLISHED IES PROCEDURES AND PUBLISHED LAMP RATINGS.
 2. THE LIGHT LOSS FACTOR (LLF) IS BASED ON LAMP MANUFACTURER'S PUBLISHED MEAN LUMEN RATINGS.
 3. FIELD PERFORMANCE WILL DEPEND ON ACTUAL LAMP, BALLAST, ELECTRICAL, AND SITE CHARACTERISTICS.
 4. REFERENCE ENCLOSED PLAN SHEET E1-A FOR ADDITIONAL SITE PLAN DETAILS.

This record drawing is a compilation of the sealed engineering drawing for this project; modified by addenda, change orders and information furnished by the contractor. The information shown on the record drawings that was provided by the contractor or others not associated with the design engineer cannot be verified for accuracy or completeness. This original sealed drawings are on file at the offices of Birkhoff, Hendricks & Conway, L.L.P.

BY JJK DATE 12/15/10

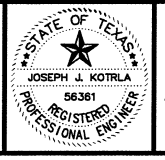
BIRKHOFF, HENDRICKS & CONWAY, L.L.P. PROFESSIONAL ENGINEERS 11910 Greenville Ave., Suite 600 Dallas, Texas 75243 (214) 361-7900		THESE DOCUMENTS ARE FOR BIDDING, CONSTRUCTION, AND PERMIT PURPOSES. DATE: <u>10-17-2008</u> McCREARY & ASSOCIATES, INC. Consulting Engineers Dallas, Texas FIRM No. F-338	NORTH TEXAS MUNICIPAL WATER DISTRICT LAKESIDE LIFT STATION IMPROVEMENTS ELECTRICAL ELECTRICAL SITE PLAN	BHC PROJECT NO. 2007-104	SHEET NO. E1
				DECEMBER, 2010	

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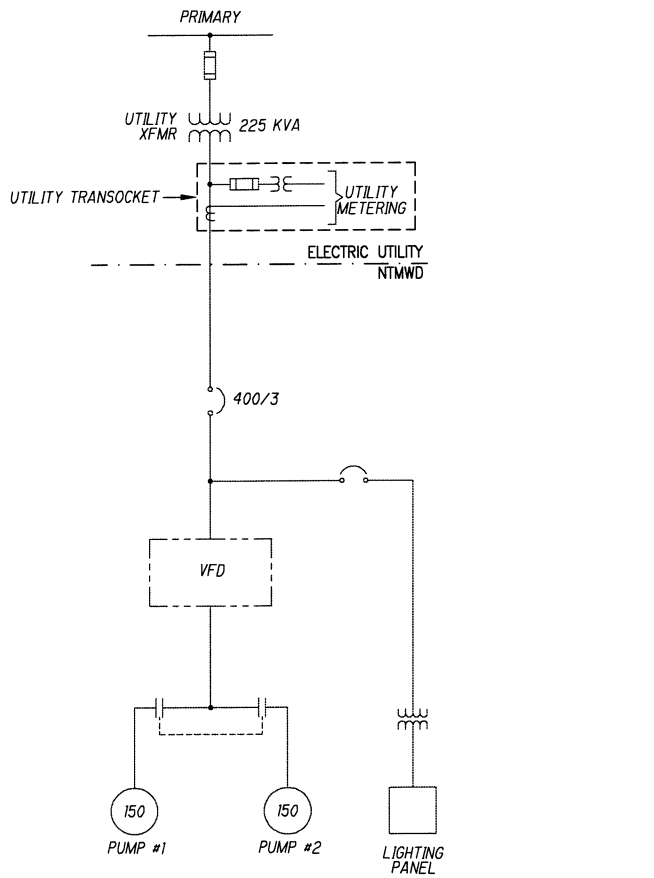
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Joseph J. Kotrla
 DATE: 10-17-2008
McCREARY & ASSOCIATES, INC.
 Consulting Engineers
 Dallas, Texas FIRM No. F-338

NORTH TEXAS MUNICIPAL WATER DISTRICT
 LAKESIDE LIFT STATION IMPROVEMENTS
ELECTRICAL
ELECTRICAL SITE PLAN DETAILS

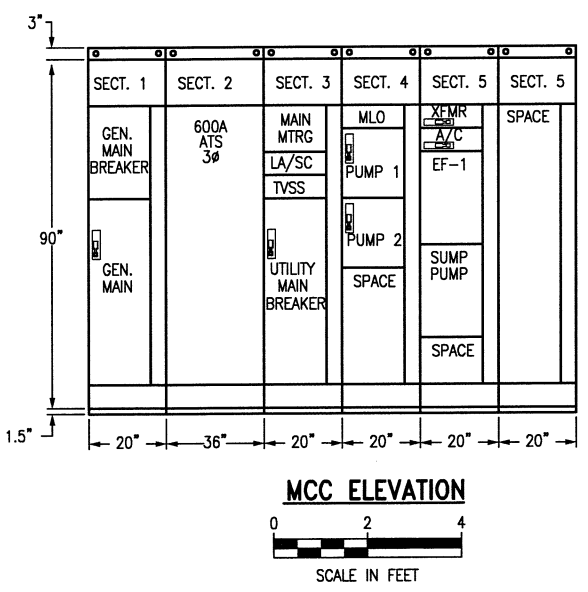
BHC
 PROJECT NO.
 2007-104
 DECEMBER, 2010

SHEET NO.
E1-A

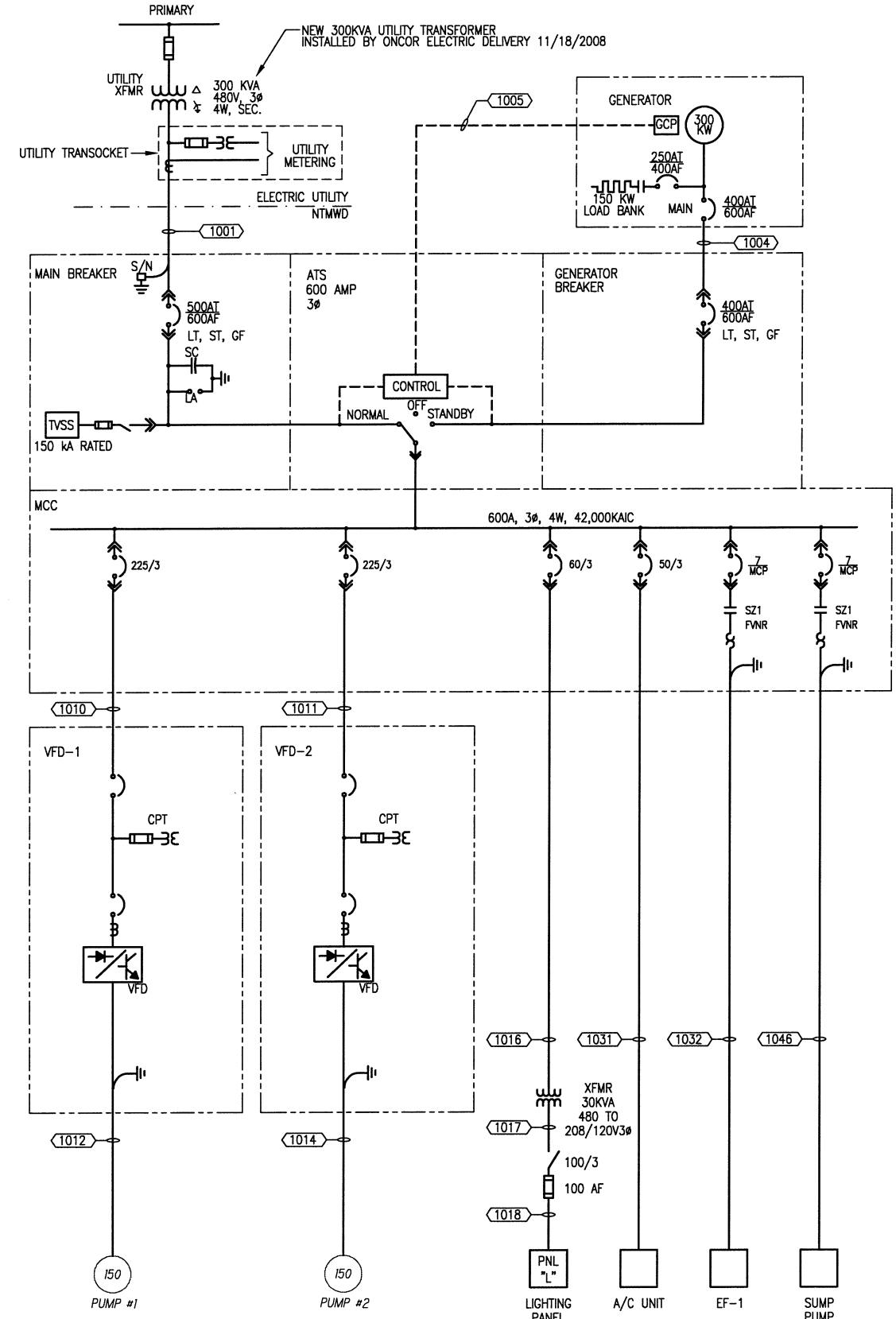
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ONE LINE DIAGRAM - EXISTING



MCC ELEVATION
SCALE IN FEET



ONE LINE DIAGRAM - REVISED

ONE LINE DIAGRAM LEGEND	
SYMBOL	DESCRIPTION
	POWER TRANSFORMER
	CURRENT TRANSFORMER
	CONTROL POWER (CPT) OR POTENTIAL (PT) TRANSFORMER
	THERMAL MAGNETIC CIRCUIT BREAKER; AF=FRAME SIZE, AT=AMP TRIP
	MAGNETIC ONLY CIRCUIT BREAKER; NUMBER INDICATES CONTINUOUS CURRENT RATING
	STAB-IN CONNECTION, NUMBER INDICATES MCC UNIT DESIGNATION
	FUSE
	FUSED SWITCH
	FULL VOLTAGE, NON-REVERSING STARTER, WITH OVERLOAD RELAY, NUMBER INDICATES NEMA SIZE
	CONNECTION TO GROUND
	SPACE HEATER
	SOLID NEUTRAL
	DELTA CONNECTED TRANSFORMER WINDINGS
	WYE CONNECTED TRANSFORMER WINDINGS
	LIGHTNING ARRESTER
	SURGE CAPACITOR
	VOLTMETER SWITCH
	VOLTMETER
	AMMETER SWITCH
	AMMETER
	GENERATOR CONTROL PANEL
	TRANSIENT VOLTAGE SURGE SUPPRESSOR
	MAIN LUGS ONLY
	FLOW METER MONITORING

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BY JJK DATE 12/15/10

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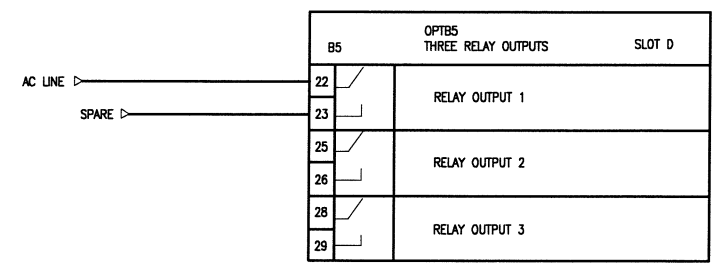
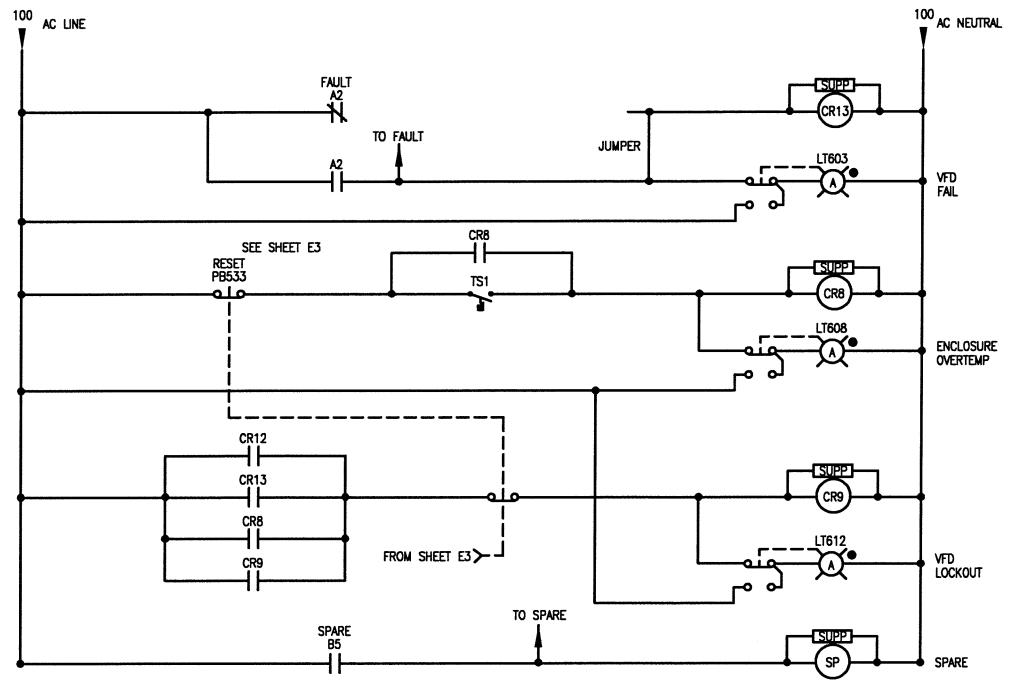


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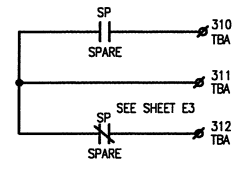
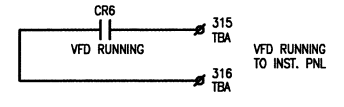
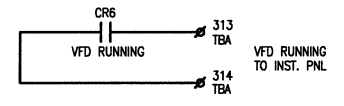
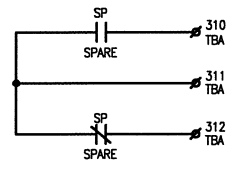
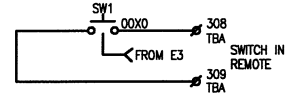
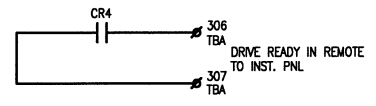
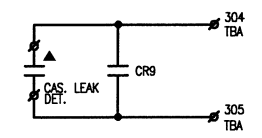
NORTH TEXAS MUNICIPAL WATER DISTRICT
LAKESIDE LIFT STATION IMPROVEMENTS
ELECTRICAL ONE LINE DIAGRAM

BHC PROJECT NO. 2007-104
DECEMBER, 2010
SHEET NO. **E2**

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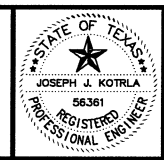


C2		OPTC2 RS-485 COMMUNICATION W/ TERM BLK	SLOT E
1	NC	NO CONNECTION	
2	VP	+5V SUPPLY	
3	RXD/TXD -N	REC/XMIT DATA - MINUS (A)	
4	RXD/TXD -P	REC/XMIT DATA - PLUS (B)	
5	DGND	DATA GROUND (VP REF)	



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 PROFESSIONAL ENGINEERS
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 DATE: 10-17-2008
 McCREARY & ASSOCIATES, INC.
 Consulting Engineers
 Dallas, Texas FIRM No. F-338

NORTH TEXAS MUNICIPAL WATER DISTRICT
 LAKESIDE LIFT STATION IMPROVEMENTS
 ELECTRICAL
 ELECTRICAL CONTROL SCHEMATICS II

BHC PROJECT NO. 2007-104
 DECEMBER, 2010
 SHEET NO. **E4**

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CONDUIT AND CABLE SCHEDULE					
TAG	WIRING	CONDUIT	SOURCE	DESTINATION	COMMENTS
1001	2 SETS; EACH: 3#350, #1G	2-3/4"	PAD MOUNTED TRANSFORMER	MAIN BREAKER	
1004	2 SETS; EACH: 3#350, #1G	2-3/4"	GENERATOR BREAKER	GENERATOR	
1005	12 #14 T/C	1"	ATS	GENERATOR	
1010	3#4/0, #2G T/C	2 1/2"	MCC	VFD#1	CABLE TRAY
1011	3#4/0, #2G T/C	2 1/2"	MCC	VFD#2	CABLE TRAY
1012	3#4/0, #2G, 12#14, #14G 1-1" E-STOP	2 1/2"	VFD#1	PUMP No.1	
1014	3#4/0, #2G, 12#14, #14G 1-1" E-STOP	2 1/2"	VFD#2	PUMP No.2	
1016	3#6, #6G	1"	MCC	LIGHTING TRANSFORMER	
1017	3#2, #2G	1 1/4"	LIGHTING TRANSFORMER	LIGHTING PANEL DISCONNECT	
1018	3#2, #2G	1 1/4"	LIGHTING PANEL DISCONNECT	LIGHTING PANEL	
1020	2#8, #8N, #8G	1"	LIGHTING PANEL	GENERATOR	JACKET HTR, BATT. CHGR
1021	12C#14 T/C	1"	ATS	GENERATOR	GENERATOR CONTROLS
1022	2C/S#16, 2#14	1"	GENERATOR A/V ALARM PNL	GENERATOR	
1023	2C/S#16	1"	INSTRUMENT PANEL	GENERATOR A/V ALARM PNL	
1024	2C/S#16, 12C#14 T/C	1 1/4"	GENERATOR CONTROL PANEL	INSTRUMENT PANEL	
1025	24#14, 19C#14 T/C	1 1/4"	MCC	INSTRUMENT PANEL	
1026	24#14, 19C#14 T/C	1 1/4"	ATS	INSTRUMENT PANEL	
1027	PULL CORD	2"	ANTENNA POLE	INSTRUMENT PANEL	
1028	4-2C/S#16, 19C#14 T/C	1 1/2"	VFD#1	INSTRUMENT PANEL	
1029	4-2C/S#16, 19C#14 T/C	1 1/2"	VFD#2	INSTRUMENT PANEL	
1030	2C/S#16	3/4"	ELECTRIC ROOM TT	INSTRUMENT PANEL	
1031	3#8, #8G	1"	MCC	A/C UNIT	
1032	3C#12, #12G T/C	3/4"	MCC	EF-1	
1033	2-MANUFACTURER'S CABLE, 7#14	1 1/4"	WET WELL	LEVEL TRANSMITTERS	ULTRASONIC, SUBMERSIBLE, FLOATS
1034	2-2C/S#16, 7#14	1 1/4"	LEVEL TRANSMITTERS	INSTRUMENT PANEL	
1041	2-MANUFACTURER'S CABLE, 6#14	2"	DOPPLER FLOW TRANSDUCERS	DOPPLER FLOW TRANSMITTERS	FLOW, HIGH WATER, INTRUSION, FAN FAIL
1042	2C/S#16	3/4"	PUMP #1 FLOW TRANSMITTER	INSTRUMENT PANEL	
1043	2C/S#16	3/4"	PUMP #2 FLOW TRANSMITTER	INSTRUMENT PANEL	
1044	2#12, #12G	1"	LIGHTING PANEL	SITE LIGHT	
1045	8#12, #12G	1"	LIGHTING PANEL	DRY PIT	LIGHTS, RECEPTACLES
1046	3#12, #12G	1"	MCC	DRY PIT	SUMP PUMP
1047	3#12, #12G	1"	LIGHTING PANEL	DRY PIT	FAN
1048	4#14, #14G	1"	MCC	DRY PIT	SUMP PUMP FLOATS

LIFT STATION RTU I/O						
TAG	DESCRIPTION	I/O TYPE	FUNCTION	FIELD DEVICE	RANGE	COMMENTS
	WET WELL LEVEL	A/I	LEVEL			ULTRASONIC TRANSMITTER
	WET WELL HIGH LEVEL	D/I	ALARM			
	WET WELL LLCO	D/I	ALARM			
	PUMP No.1	D/I	STATUS	VFD#1		ON/OFF
	PUMP No.1	A/O	CONTROL	VFD#1		SPEED CONTROL
	PUMP No.1	A/I	STATUS	VFD#1		SPEED REFERENCE
	PUMP No.1 HOA IN AUTO	D/I	STATUS			
	PUMP No.2	D/I	STATUS	VFD#2		ON/OFF
	PUMP No.2	A/O	CONTROL	VFD#2		SPEED CONTROL
	PUMP No.2	A/I	STATUS	VFD#2		SPEED REFERENCE
	PUMP No.2 HOA IN AUTO	D/I	STATUS			
	ATS NORMAL	D/I	STATUS			
	ATS EMERGENCY	D/I	ALARM			
	GENERATOR ON	D/I	STATUS			
	GENERATOR FUEL LEVEL	A/I	LEVEL			FUEL LEVEL
	GENERATOR ALARM	D/I	ALARM			
	GREEN LIGHT	D/O	STATUS			NO ALARMS
	SURGE PROTECTION FAILURE	D/I	ALARM			TVSS - MAIN
	SURGE PROTECTION FAILURE	D/I	ALARM			TVSS - LIGHTING PANEL
	EFFLUENT FLOWMETER PUMP 1	A/I	FLOW			
	EFFLUENT FLOWMETER PUMP 1	D/I	FLOW			TOTAL FLOW
	EFFLUENT FLOWMETER PUMP 2	A/I	FLOW			
	EFFLUENT FLOWMETER PUMP 2	D/I	FLOW			TOTAL FLOW
	AC UNIT	D/I	ALARM			
	DRY WELL HIGH WATER	D/I	ALARM			
	DRY WELL FAN FAIL	D/I	ALARM			
	INTRUSION ALARM	D/I	ALARM			LIFT STATION, WIRE IN SERIES
	INTRUSION ALARM	D/I	ALARM			DRY WELL HATCH
	UPS ALARM	D/I	ALARM			
	ELECTRICAL ROOM HIGH TEMP	A/I	ALARM	TT		
	POWER FAILURE	D/I	ALARM			PHASE FAILURE/ UNDERVOLT

PANEL SCHEDULE									
NUMBER: PRL 1A LOCATION: ELECTRICAL ROOM NEUTRAL AMPS: 100 NEUTRAL VOLTS: 120								VOLTS: 208Y/120V 3# 4WIRE SIZE: 100A (PANEL AMPS) MAIN LUGS ONLY	
CIRCUIT DESCRIPTION	LOAD WATTS	CKT BKR	CKT #	CKT #	CKT BKR	LOAD WATTS	CIRCUIT DESCRIPTION		
LIFT STATION ELECTRICAL ROOM LIGHTING	240	20/1	1	2			TRANSIENT VOLTAGE SURGE SUPPRESSOR (TVSS)		
INTERIOR RECEPTACLES	1080	20/1	3	4	15/3				
SPARE		20/1	5	6					
MCC HEATER		20/1	7	8	20/1		GENERATOR ROOM LIGHTS		
GENERATOR JACKET, HEATER AND BATTERY CHARGER	9 KW	50/2	9	10	20/1		SPARE		
			11	12	20/1		DRY PIT LIGHTS AND RECEPTACLES		
DRY PIT EXHAUST FAN	240	20/1	13	14	20/1		IRRIGATION CONTROL FOR LAWN SPRINKLERS		
EMERGENCY LIGHTS		20/1	15	16	20/1		SPARE		
FLOW METERS AND LEVEL XMTR		20/1	17	18	20/1		SPARE		
SPARES		20/1	19	20	20/1		INSTRUMENT PANEL		
AREA LIGHT		15/1	23	22&24	20/1		SPARE		
AREA LIGHT		15/1	25	26			SPACE		
SPARE		20/2	27&29	28&30			SPACE (NOTE 3.)		

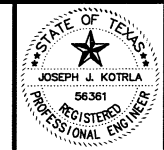
- NOTES:
- SQUARE D NQOD OR EQUAL PROVIDE INTEGRAL TVSS UNIT WITH 120KA SURGE RATING, SURGE COUNTER, AND ALARM CONTACTS **NEUTRAL** **GROUND**
 - EATON CUTLER HAMMER CLIPPER VL INSTALLED 120KA SURGE AMP RATING
 - SPACES ARE IN THE LIGHTING PANEL FOR SLOTS 31 THROUGH 42 REFERENCE SHEET E-6 FOR LOCATION.

LIGHT FIXTURE SCHEDULE						
MARK	DESCRIPTION	LAMPS	VOLTS	MFR	CATALOG NUMBER	COMMENTS
A	ENCLOSED FLUORESCENT	32 W T8	120	HOLOPHANE	HESS04X8BBN042YPIU	PROVIDE LAMPS
B	DOORWAY LIGHT	70W HPS	120	GARDCO	111M170HPS120BRPFPCB	FULL CUTOFF, PROVIDE PHOTOCELL
E	EMGCY LT, SEALED BATTERY	50W TUN	120	HOLOPHANE	DM6C50TNS2	PROVIDE LAMPS

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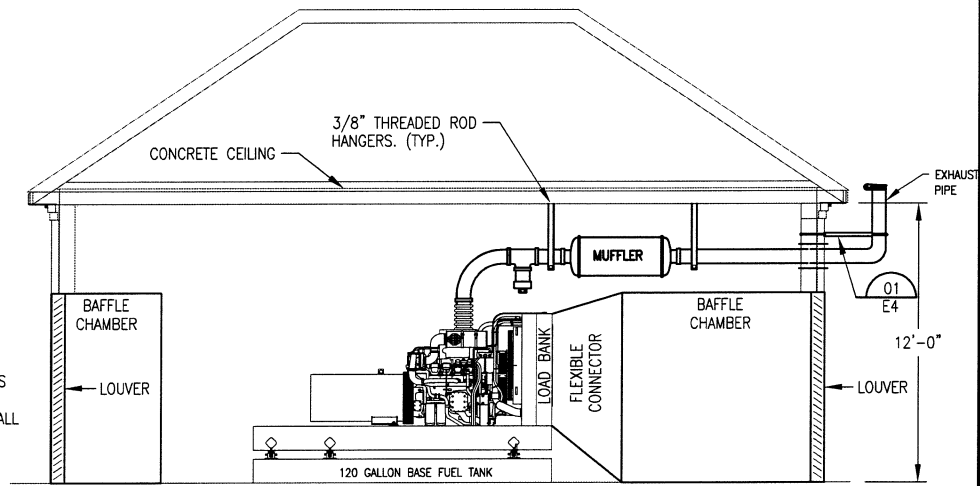
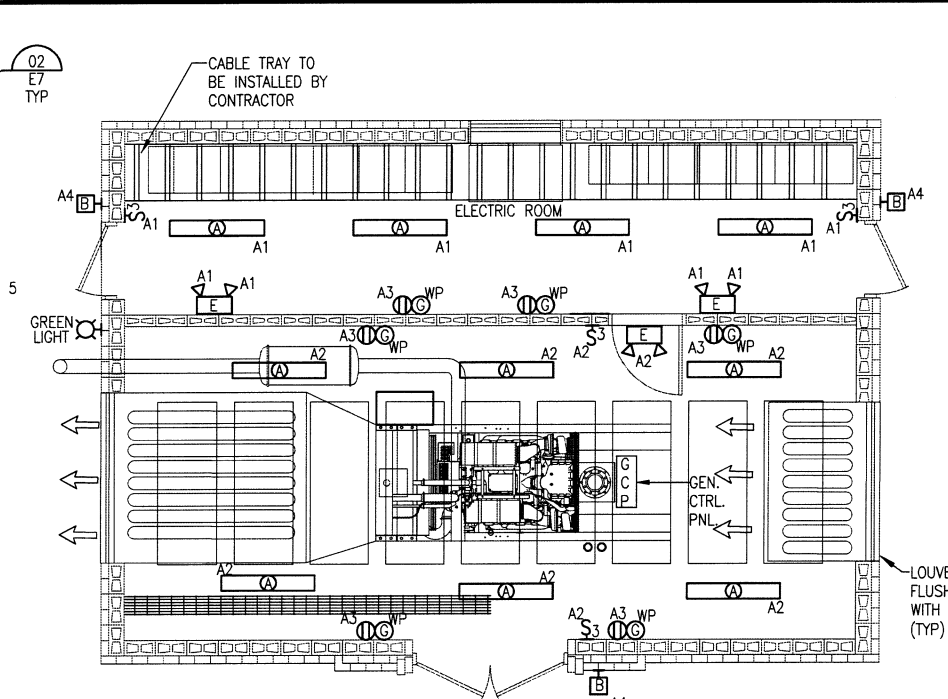
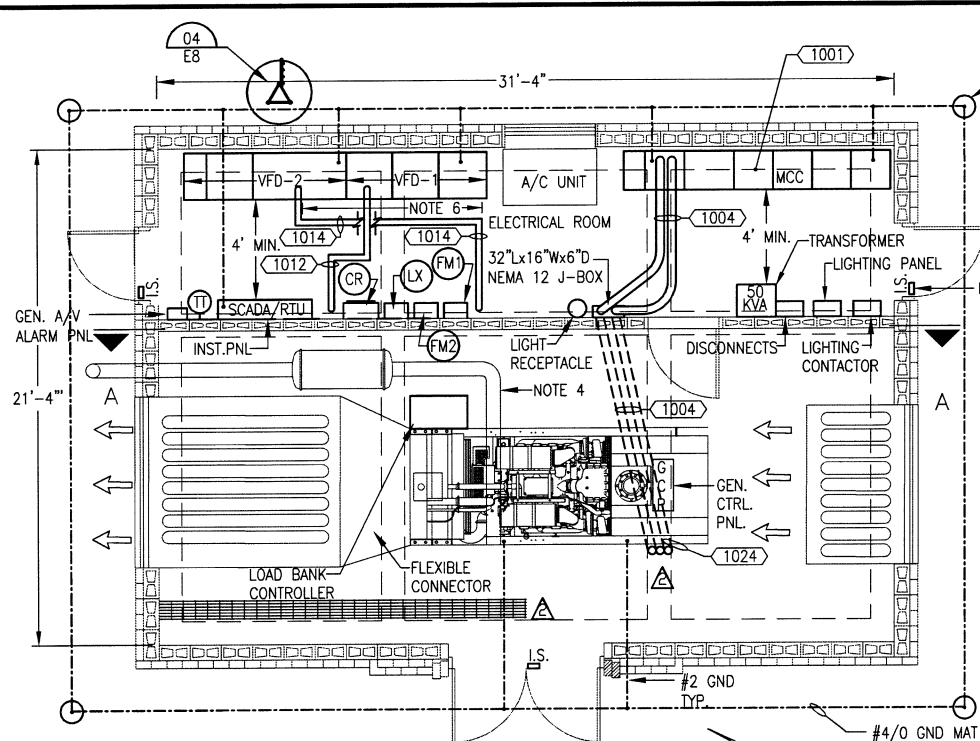


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 DATE: 10-17-2008
McCREARY & ASSOCIATES, INC.
 Consulting Engineers
 Dallas, Texas FIRM No. F-338

NORTH TEXAS MUNICIPAL WATER DISTRICT
 LAKESIDE LIFT STATION IMPROVEMENTS
 ELECTRICAL SCHEDULES

BHC PROJECT NO. 2007-104
 DECEMBER, 2010
 SHEET NO. **E5**

LEGEND	
SYMBOL	DESCRIPTION
CR	CHESSSELL 392 CHART RECORDER (ON EAST END OF SCADA CABINET)
LX	LEVEL TRANSMITTER
FM1	FLOW METER PUMP 1
FM2	FLOW METER PUMP 2



SECTION "A"-A"
SCALE IN FEET

- GENERATOR NOTES:**
- SLOPE EXHAUST RUN DOWN AWAY FROM ENGINE TO DRAIN CONDENSATE.
 - PROVIDE FLEXIBLE CONNECTIONS FOR SILENCERS AND ACOUSTIC SILENCERS.
 - PROVIDE FUEL LINE TRENCH AS INDICATED. TRENCH SHALL BE SEALED AT BUILDING EXTERIOR WALL. REF. DETAIL 04/THIS SHEET.
 - INSULATE MUFFLERS AND INTERIOR EXHAUST PIPING.
 - INSTALL INTRUSION SWITCHES ON EACH EXTERIOR DOOR (3 TOTAL). WIRE IN SERIES, 2#14, #14G, 3/4" C TO RTU INPUT.
 - BRING MOTOR CONDUITS UP THROUGH FLOOR ON WEST SIDE OF ELECTRICAL ROOM. RUN CONDUITS UP THE WALL AND ACROSS THE ELECTRICAL ROOM BELOW THE CEILING AND INTO THE TOP OF EACH VFD.
 - BRING GENERATOR CONDUITS OUT OF THE TOP OF THE MCC, ACROSS THE ELECTRICAL ROOM BELOW THE CEILING AND INTO J-BOX ON WEST WALL. CONTINUE CONDUITS BELOW GRADE FROM J-BOX TO GENERATOR.
 - PROVIDE THE FOLLOWING SPARE CONDUITS STUBBED OUTSIDE UNDERGROUND AND CAPPED IN THE DIRECTION INDICATED.
 - MCC - TWO 2" CONDUITS TOWARD THE DRY PIT AND ONE 1" CONDUIT TOWARD THE STREET.
 - LIGHTING PANEL BOARD - TWO 1" CONDUITS TOWARD THE DRY PIT AND TWO 1" CONDUITS TOWARD THE STREET.
 - INTERIOR WALL OF ELECTRICAL ROOM (ACROSS FROM DRIVES) - TWO 2" CONDUITS TOWARD THE DRY PIT.
 - REFERENCE SHEET E-1 FOR CONDUIT ENTERING THE ELECTRICAL ROOM (I.E. TAG <1001>).
 - REFERENCE SHEET E-6A FOR ADDITIONAL DETAILS.

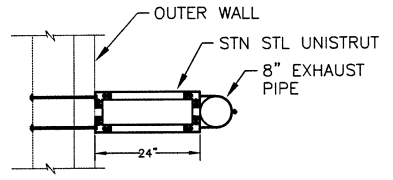
- NOTES:**
- A NUMBER BESIDE A LIGHT FIXTURE, CIRCUIT OUTLET OR OTHER DEVICES INDICATES A PANEL BOARD BRANCH CIRCUIT CONNECTION. WHERE CONDUIT AND WIRE HAVE NOT BEEN SHOWN, FURNISH AND INSTALL CONDUIT AND WIRE TO PANEL BOARD. MATERIALS AND INSTALLATION SHALL BE PER THE SPECIFICATIONS. CONDUIT SHALL BE PER THE NEC, 3/4" MINIMUM. WIRE SHALL BE CODE SIZED PER THE BREAKER THAT THE BRANCH CIRCUIT IS TO BE CONNECTED TO ON THE PANEL BOARD SCHEDULE.
 - ALL RECEPTACLES SHALL BE MOUNTED 24" AFF. SWITCHES & T'STATS MOUNTED AT 4'-0" AFF.
 - MOUNT "B" FIXTURES 8'-0" ABOVE FINISHED GRADE TO BOTTOM OF FIXTURE.
 - REFERENCE SHEET E-1 FOR ABBREVIATIONS, AND SHEET E-5 FOR TYPES OF LIGHTS.
 - REFERENCE SHEET E-6A FOR ADDITIONAL DETAILS.

GENERATOR BUILDING LIGHTING PLAN

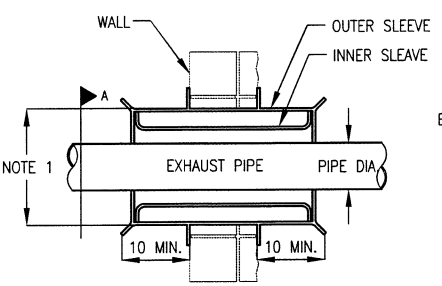
SCALE IN FEET

GENERATOR BUILDING ELECTRICAL PLAN

SCALE IN FEET

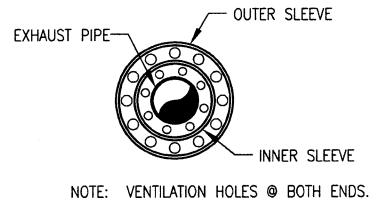


01 EXHAUST PIPE SUPPORT BRACKET
NOT TO SCALE



02 EXHAUST PIPE WALL PENETRATION
NOT TO SCALE

- NOTES:**
- VENTILATED METAL THIMBLE SHALL BE MIN. 12" IN DIAMETER LARGER THAN EXHAUST PIPE.

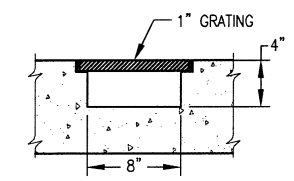


03 GENERATOR EXHAUST
NOT TO SCALE

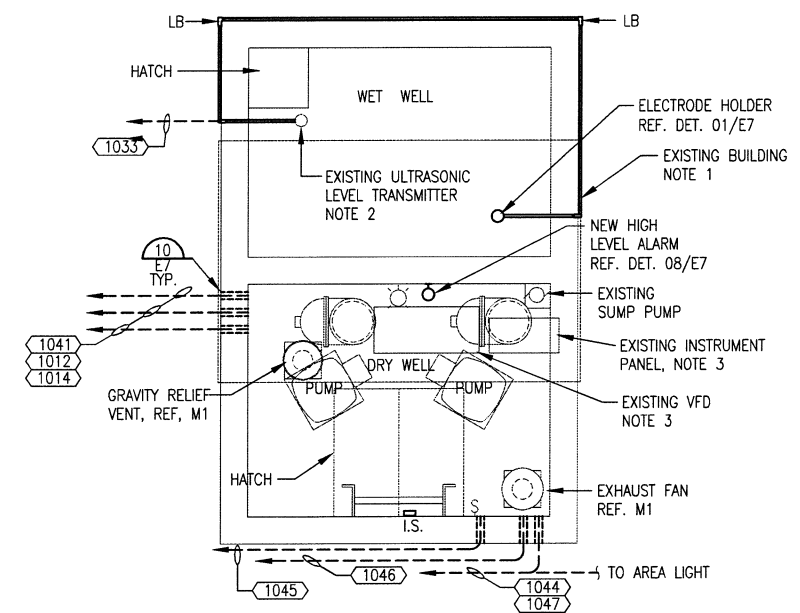
- NOTES:**
- PIPING SHALL BE SAME SIZE OR LARGER THAN I.D. OF MANIFOLD OUTLET.

SECTION "A"

NOTE: VENTILATION HOLES @ BOTH ENDS.



04 FUEL LINE TRENCH
NOT TO SCALE



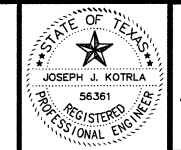
- NOTES:**
- EXISTING BUILDING SHALL BE REMOVED, REF. CIVIL. REMOVE EXISTING ELECTRICAL IN BUILDING AND RESUPPLY DEVICES IN DRY PIT FROM NEW ELECTRIC ROOM.
 - REPLACE EXISTING ULTRASONIC WITH NEW ULTRASONIC AND PROVIDE NEW WIRING. REF. SPECS. (NEW ULTRA SONIC LEVEL INSTALLED).
 - REMOVE EXISTING VARIABLE SPEED DRIVE AND INSTRUMENT CABINET AND RETURN TO OWNER. RELOCATE EXISTING RADIO AND MILTRONICS HYDRORANGER TO NEW INSTRUMENT PANEL IN ELECTRICAL ROOM.
 - INSTALL INTRUSION SWITCH ON DRY WELL HATCH. RUN 2#14, #14G, 3/4" C TO RTU INPUT.

05 EXISTING LIFT STATION PLAN
NOT TO SCALE

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RFI-002-CONDUITS OK TO ROUTE INSIDE GRADE BEAM AND FUEL LINE TRENCH CHANGE.
CONFORMED DRAWING

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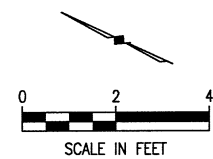
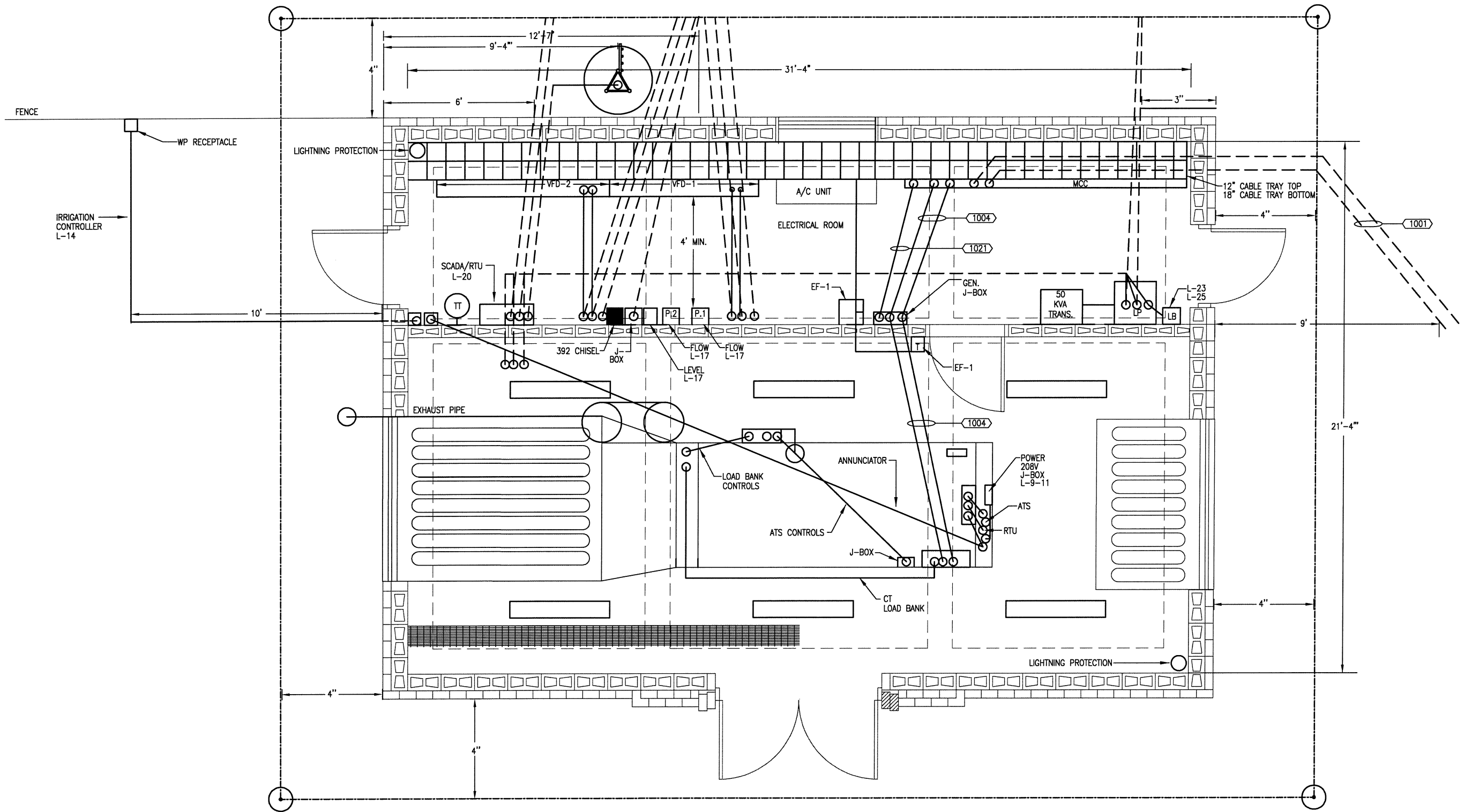


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Consulting Engineers
Dallas, Texas FIRM No. F-338

NORTH TEXAS MUNICIPAL WATER DISTRICT
LAKESIDE LIFT STATION IMPROVEMENTS
ELECTRICAL FLOOR PLAN & DETAILS

BHC PROJECT NO. 2007-104
DECEMBER, 2010
SHEET NO. E6

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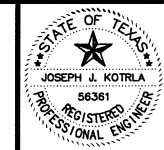


GENERATOR BUILDING ELECTRICAL PLAN

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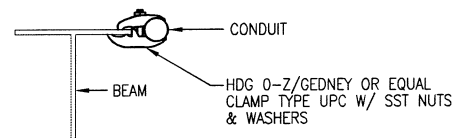
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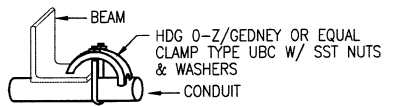
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NORTH TEXAS MUNICIPAL WATER DISTRICT
 LAKESIDE LIFT STATION IMPROVEMENTS
ELECTRICAL
 GENERATOR BUILDING ELECTRICAL PLAN DETAILS

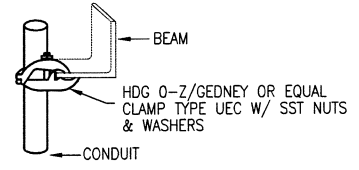
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DECEMBER, 2010	



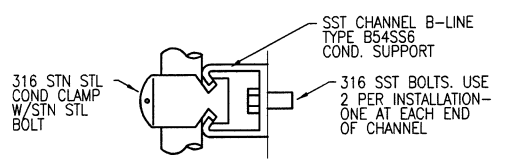
00 TYPICAL PARALLEL CONDUIT SUPPORT
NOT TO SCALE



01 TYPICAL RIGHT ANGLE CONDUIT SUPPORT
NOT TO SCALE

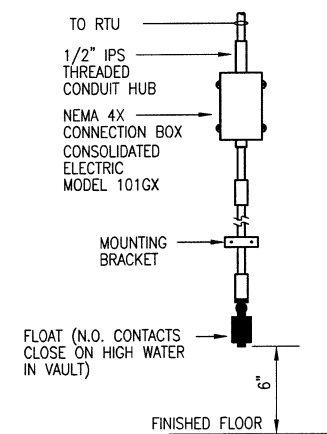


02 TYPICAL EDGE TYPE CONDUIT SUPPORT
NOT TO SCALE

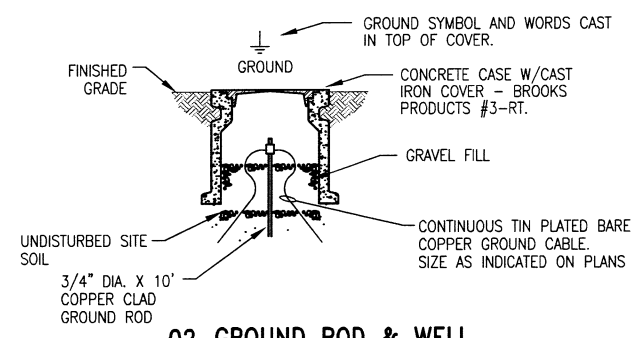


03 TYPICAL CONDUIT SUPPORT SINGLE CONDUIT
NOT TO SCALE

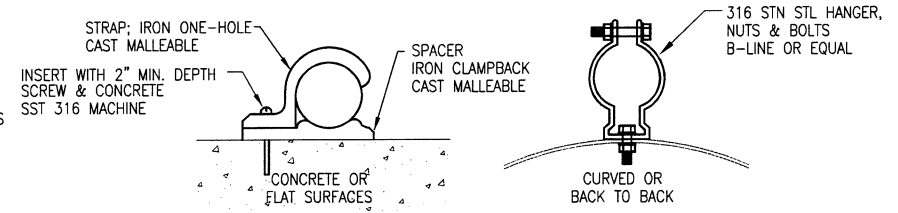
07 TYPICAL CONDUIT SUPPORT ON CONCRETE STRUCTURES FOR MULTIPLE CONDUIT RUNS
NOT TO SCALE



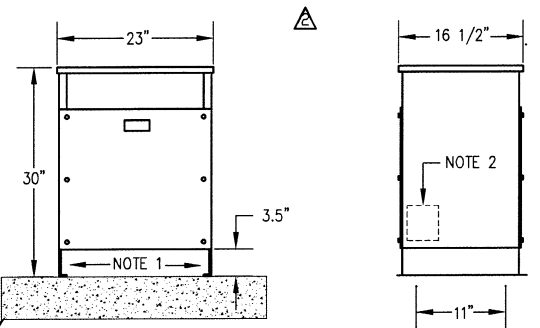
08 HIGH SUMP WATER ALARM DETAIL
NOT TO SCALE



02 GROUND ROD & WELL
NOT TO SCALE

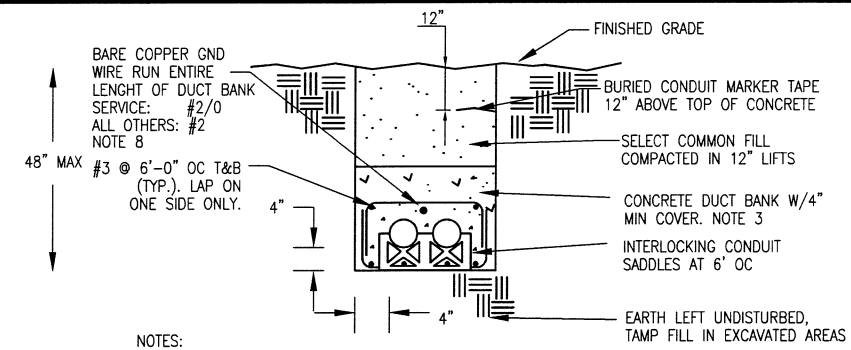


05 TYPICAL CONDUIT SUPPORT
NOT TO SCALE



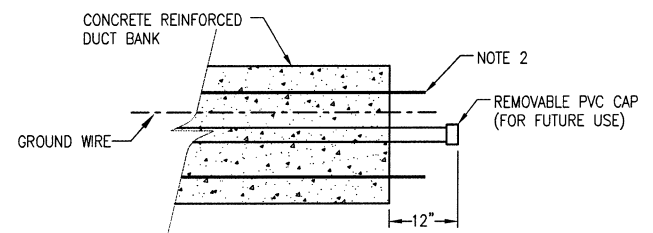
09 WALL MOUNTED TRANSFORMER DRY TYPE
NOT TO SCALE

- NOTES:
1. SPACE AVAILABLE IN BOTTOM FOR CONDUIT ENTRANCE.
 2. 4.5"x4.5" CONDUIT ENTRY, BOTH SIDES.
 3. MAINTAIN MINIMUM 6" CLEARANCE BETWEEN VENT OPENINGS AND WALL OR OTHER OBSTRUCTIONS.



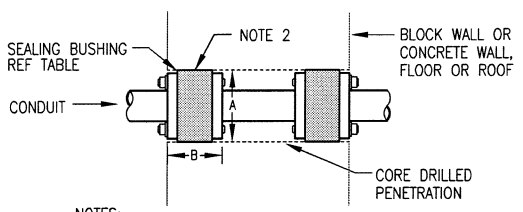
- NOTES:
1. NUMBER AND SIZE OF CONDUITS SHALL BE AS SHOWN ON THE PLANS.
 2. TOP OF CONCRETE ENCASEMENT SHALL BE A MINIMUM OF 18" BELOW GRADE.
 3. SPRAY TOP OF CONCRETE WITH RED DYE AFTER POUR.
 4. TYPICAL REINFORCEMENT SHALL BE #3 @ 6 IN. T & B.
 5. PROVIDE 6" SEPARATION BETWEEN 480 VOLT POWER CONDUITS AND ANALOG SIGNAL CONDUIT.
 6. CONCRETE SHALL BE 3000 PSI @ 28 DAYS.
 7. WHERE DUCTBANK CONTACTS AND EXISTING STRUCTURE, DOWEL 6 IN. INTO STRUCTURE W/ #3 REBAR.
 8. CONNECT DUCT BANK GROUND WIRE TO GROUND MAT WHERE AVAILABLE AT END OF DUCT BANK. WHERE GROUND MAT IS NOT AVAILABLE, DRIVE A 3/4 IN. X 10'-0" COPPER CLAD STEEL GROUND ROD AND CONNECT DUCT BANK GROUND WIRE TO GROUND ROD.

03 DETAIL - CONCRETE ENCASED UNDERGROUND DUCTBANK
NOT TO SCALE



- NOTES:
1. TYPICAL FOR ALL CONDUITS STUBBED OUTSIDE OF BUILDING.
 2. EXPOSED COATED REBAR FOR TIE-IN AND CONTINUANCE OF FUTURE DUCTBANK.

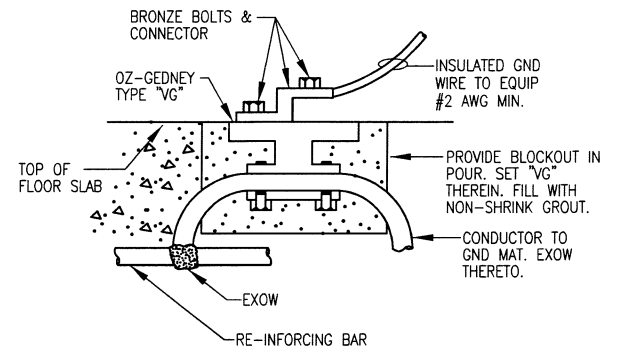
06 UNDERGROUND CONDUIT
NO SCALE



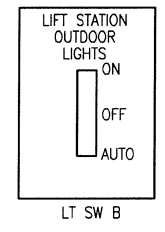
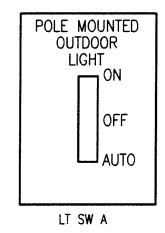
- NOTES:
1. TYPICAL FOR NEW PENETRATIONS OF EXISTING WALLS, ROOFS & FLOORS.
 2. CAULK ALL AROUND WITH SILICONE SEALANT PRIOR TO INSTALLING BUSHING
 3. REPAIR ALL DAMAGE DONE BY CORE DRILL.

CONDUIT NOM. I.D.	CORE DRILLED HOLE DIA.		O-Z GEDNEY CATALOG #
	"A"	"B"	
3/4"	2"	1 5/8"	CSMI-200P
1"	2 1/2"	1 5/8"	CSMI-250P
1 1/4"-1 1/2"	3"	1 5/8"	CSMI-300P
2"	4"	1 7/8"	CSMI-400P
2 1/2"-3"	5"	1 7/8"	CSMI-500P
3 1/2"-4"	6"	1 7/8"	CSMI-600P

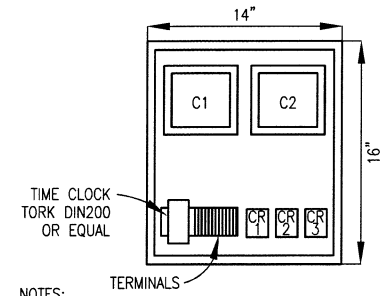
10 WATERTIGHT CONDUIT PENETRATION
NO SCALE



04 IN-SLAB GROUNDING CONNECTOR
NOT TO SCALE



11 DETAIL-ENGRAVED SWITCH PLATES
NOT TO SCALE



- NOTES:
1. ENCLOSURE SHALL BE NEMA 12 WITH SUBPANEL. FURNISH AND INSTALL HOFFMAN OR EQUAL.
 2. CONTACTORS C1 AND C2 SHALL BE ELECTRICALLY HELD AND RATED FOR 30A. REF SCHEMATIC ON SHEET E3.
 3. CONTROL RELAYS SHALL BE POTTER & BRUMFIELD TYPE PRD-11AYO-120V.
 4. REF LIGHTING PLAN SHEET E6 FOR LOCATION OF CONTROL PANEL.
 5. CR1 & CR2 ARE FOR LIGHTING CONTROL, CR3 IS A SPARE.

12 DETAIL-OUTDOOR LIGHTING CONTROL
NOT TO SCALE

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PER FIELD INSTALLATION
PER SHEET E-2 AND APPROVED SUBMITTAL

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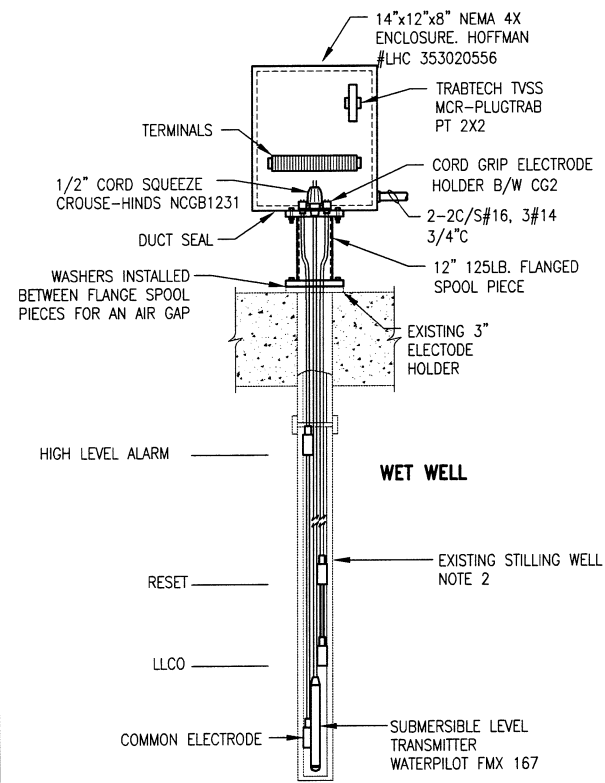


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DATE: 10-17-2008
McCREARY & ASSOCIATES, INC.
Consulting Engineers
Dallas, Texas FIRM No. F-338

NORTH TEXAS MUNICIPAL WATER DISTRICT
LAKESIDE LIFT STATION IMPROVEMENTS
ELECTRICAL DETAILS

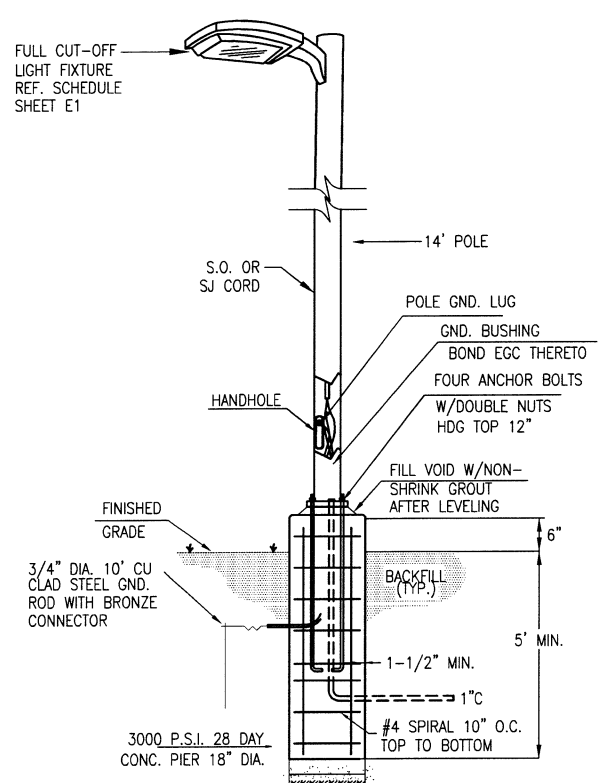
BHC PROJECT NO. 2007-104
DECEMBER, 2010
SHEET NO. **E7**

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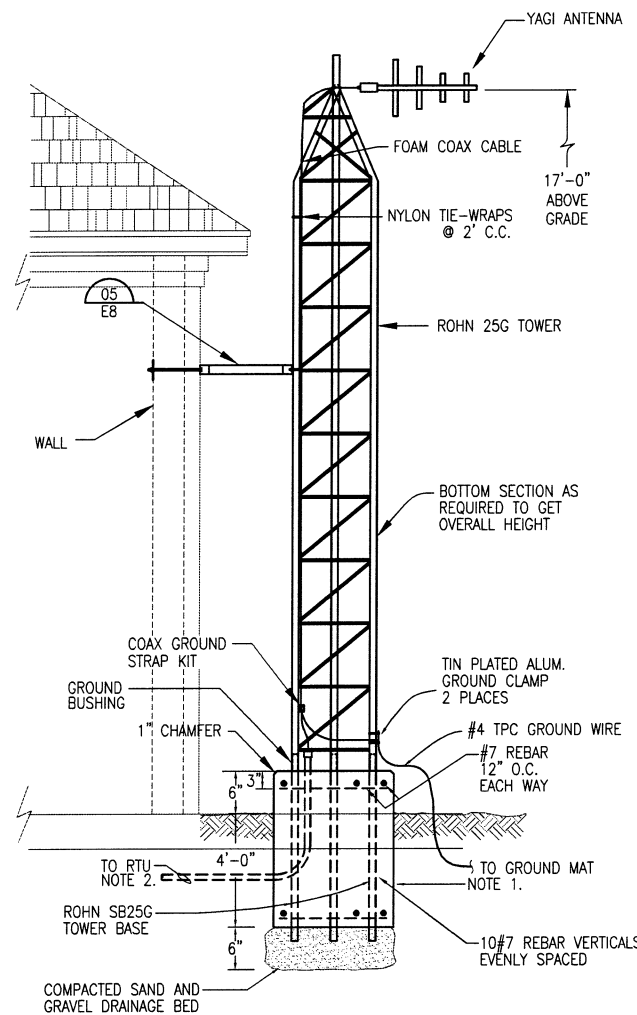
01 DETAIL - WET WELL LEVEL INSTRUMENTATION
NOT TO SCALE

NOTES:
1. REMOVE EXISTING ELECTRODE HOLDER AND REPLACE WITH SPOOL PIECE AS INDICATED.
2. REMOVE EXISTING ELECTRODES AND WIRING FROM EXISTING STILLING WELL AS REQUIRED. REMOVE ALL DEBRIS AND BUILDUP FROM EXISTING STILLING WELL.



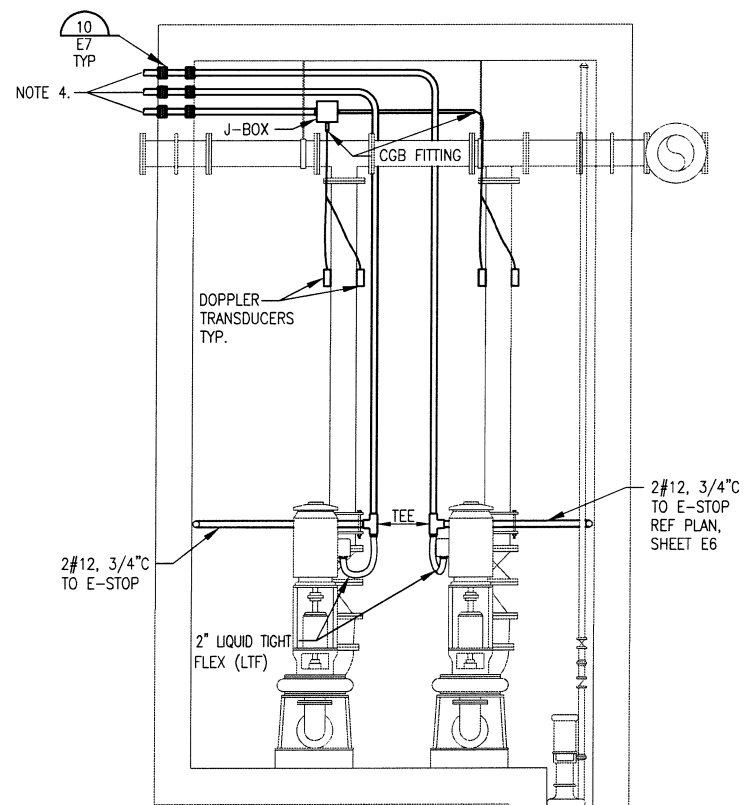
03 LIGHTING FIXTURE AND POLE INSTALLATION
NOT TO SCALE

NOTES:
1. POLE SHALL BE 5" SQUARE STRAIGHT ALUMINUM. POLE SHALL BE RATED @ 100 MPH + 30% GUST FACTOR. PROVIDE CARCO #SSA5-CB-14 OR APPROVED EQUAL.
2. THE POLE AND FIXTURE INSTALLATIONS SHALL UTILIZE THE SPECIFIED PRODUCTS. SHOULD A CONTRACTOR DESIRE TO SUBSTITUTE AND ALTERNATE LIGHT FIXTURE AND/OR POLE FOR THAT SPECIFIED, PRE-APPROVAL MUST BE GRANTED BY THE CITY AND THE ENGINEER. THIS DECISION TO ALLOW AN ALTERNATE WILL BE FORWARDED TO ALL PLAN HOLDERS BY ADDENDUM.
3. ALL PROPOSED CONDUITS SHALL BE A MINIMUM OF 24 INCHES BELOW GRADE.



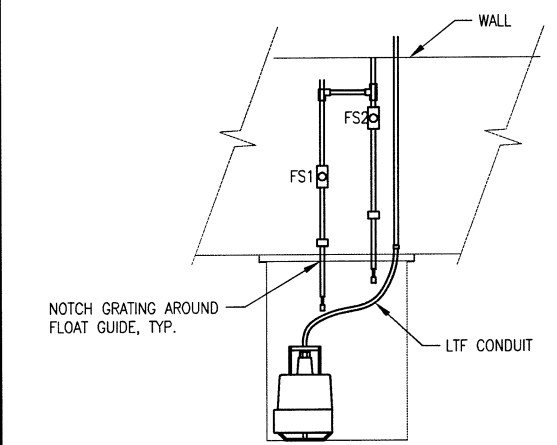
04 ANTENNA DETAIL
NOT TO SCALE

NOTES:
1. ANTENNA BASE SHALL BE CLASS A 3000 PSI, 30"Ø. CONCRETE AND CONSTRUCTED AS SHOWN AS A MINIMUM.
2. REF: THIS SHEET, DETAIL 6
3. REF: SHEET E-1 FOR LOCATION



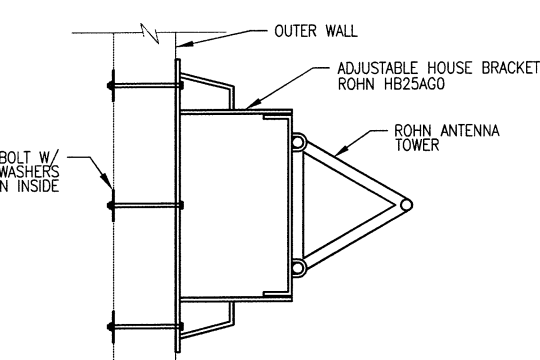
06 INSTRUMENT PANEL- LIFT STATION
NOT TO SCALE

NOTES:
1. INSTRUMENTATION WORKS WITH MAPLE SYSTEM HMI 5120 COLOR LCD TOUCH SCREEN



02 DETAIL - SUMP PUMP
NOT TO SCALE

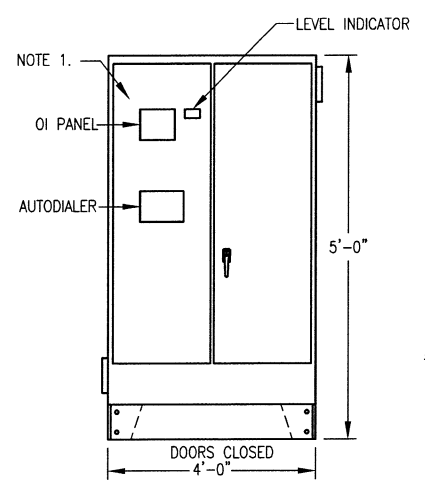
NOTES:
1. FLOAT SWITCHES SHALL BE BUSKIRK AND OWENS MODEL 1900-50' (BLUE).



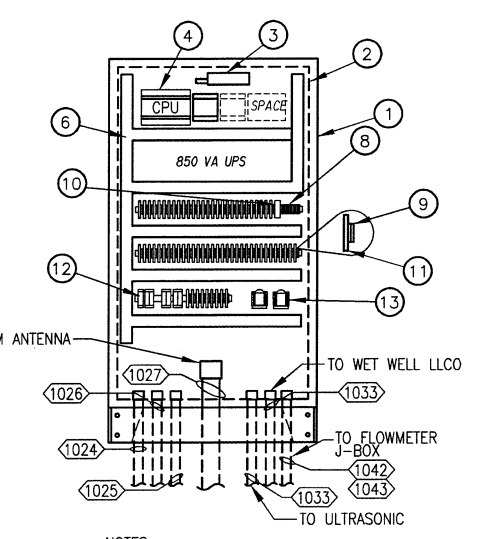
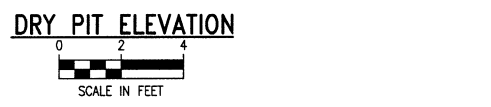
05 HOUSE BRACKET
NOT TO SCALE

TAG	DESCRIPTION	MANUFACTURER	CATALOG NUMBER	COMMENTS
1	NEMA 12 ENCLOSURE	HOFFMAN	A-604810	60"x48"x10"
2	SUBPANEL	HOFFMAN	A-60P48	56"x44"
3	RADIO	MICROWAVE DATA	MDS 9710	EXISTING USED
4	RTU & I/O	CONTROL	SCADAPACK 32	
6	WIRE DUCT	PANDUIT		2"x2"
7	ANT. SURGE PROTECTOR	POLYPHASE	IS-SONX-C2	
8	AC TERMINALS			
9	24 VDC I/O TERMINALS			
10	24 VDC POWER SUPPLIES	PHOENIX		
11	24 VDC I/O FUSED TERMINALS			
12	SIGNAL ISOLATOR/CONVERTER	PHOENIX	ECT	
13	LEVEL SWITCH RELAYS	IDEC		

NOTES:
1. REF: SHEET E-5 FOR MARKERS AND SEE INSTRUMENTATION O&M.



NOTES:
1. INSTRUMENTATION WORKS WITH MAPLE SYSTEM HMI 5120 COLOR LCD TOUCH SCREEN



NOTES:
1. REF: O&M MANUAL ON INSTRUMENTATION FOR FURTHER DETAIL

This record drawing is a compilation of the sealed engineering drawing for this project; modified by addenda, change orders and information furnished by the contractor. The information shown on the record drawings that was provided by the contractor or others not associated with the design engineer cannot be verified for accuracy or completeness. This original sealed drawings are on file at the offices of Birkhoff, Hendricks & Conway, L.L.P.

BY JJK DATE 12/15/10

BIRKHOFF, HENDRICKS & CONWAY, L.L.P.
PROFESSIONAL ENGINEERS
11910 Greenville Ave., Suite 600
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(214) 361-7900



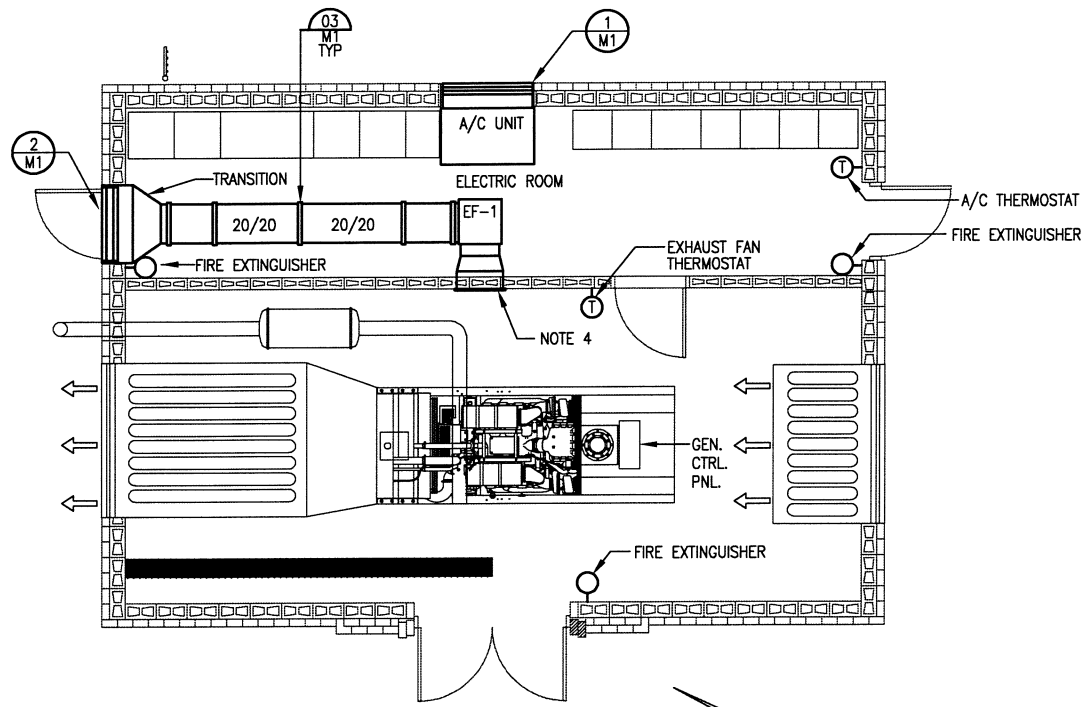
THESE DOCUMENTS ARE FOR BIDDING, CONSTRUCTION, AND PERMIT PURPOSES.
Richard Brady
DATE: 10-17-2008
McCREARY & ASSOCIATES, INC.
Consulting Engineers
Dallas, Texas FIRM No. F-338

NORTH TEXAS MUNICIPAL WATER DISTRICT
LAKESIDE LIFT STATION IMPROVEMENTS
ELECTRICAL DETAILS II

BHC PROJECT NO. 2007-104
DECEMBER, 2010

SHEET NO. **E8**

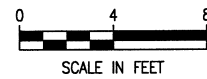
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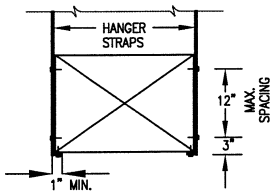
NOTES:

1. PROVIDE 5 TON A/C UNIT. MARVAIR #VA160ACD10HGII W/ 10KW ELECTRIC HEAT, GREENWHEEL AND OUTDOOR THERMOSTAT.
2. THERMOSTAT SHALL BE DIGITAL AUTO CHANGEOVER, NON-MERCURY BASED ELECTRONIC CONTROLS THAT DO NOT REQUIRE BATTERY BACKUP. MODES SHALL INCLUDE ON-OFF, COOL, HEAT & AUTO.
3. SET ELECTRICAL ROOM THERMOSTAT @75° AND GENERATOR ROOM THERMOSTAT @ 85°.
4. FURNISH AND INSTALL 24"x24" LATTICE FACE GRILLE. PROVIDE NAILOR #51LG13 OR EQUAL.

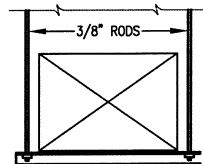
GENERATOR BUILDING PLAN



STRAP HANGERS



TRAPEZE HANGERS



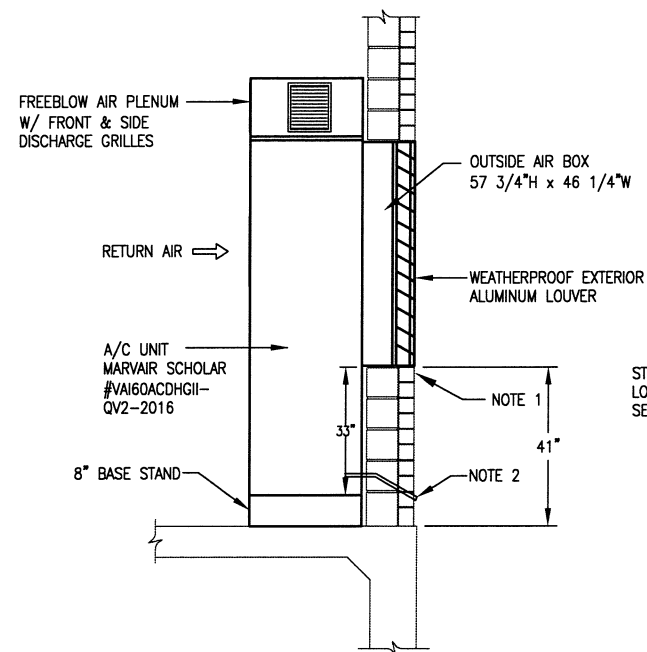
HANGER SIZE FOR RECTANGULAR DUCT

LONGEST DIM. OF DUCT	ROUND HANGERS	STRAP HANGERS	TRAPEZE SHELF ANGLES	MAXIMUM SPACING
UP THROUGH 18"	8 GA. WIRE	1" x 16 GA.	1" x 1" x 1/8"	10'-0"
19" THRU 30"	8 GA. WIRE	1" x 16 GA.	1" x 1" x 1/8"	10'-0"

03 STRAP AND TRAPEZE HANGERS FOR DUCTS
NOT TO SCALE

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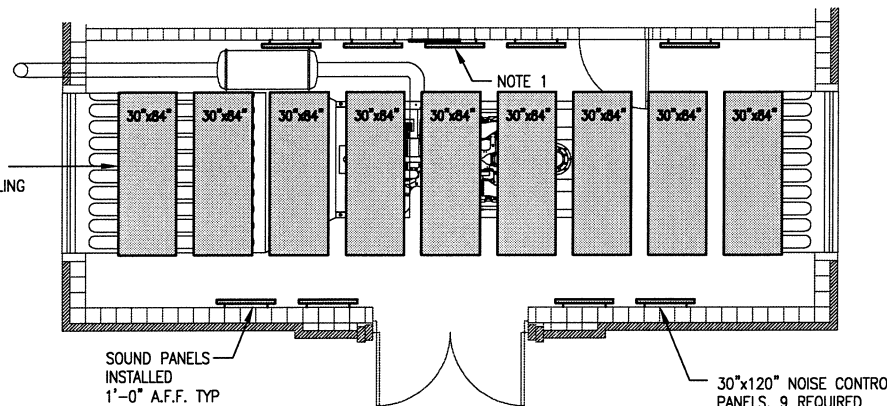
BY JJK DATE 12/15/10



NOTES:

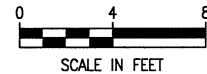
1. INSTALL FLASHING & SEAL TO PREVENT WATER INTRUSION. FINISHED WALL OPENING SHALL BE AIRTIGHT.
2. ROUTE CONDENSATE DRAIN TO BUILDING EXTERIOR
3. PROVIDE 10% OUTSIDE AIR.

01 DETAIL-AIR CONDITIONING UNIT
NOT TO SCALE



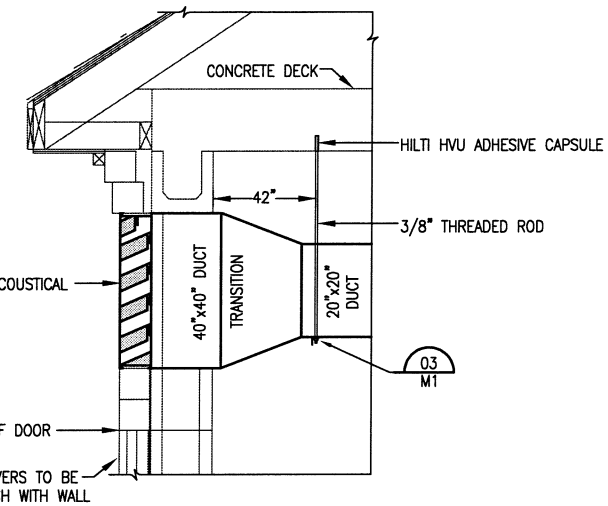
- NOTES:**
1. PROVIDE 30"Wx36"H NOISE CONTROL PANEL BELOW EXHAUST FAN GRILLE.

NOISE CONTROL PANELS

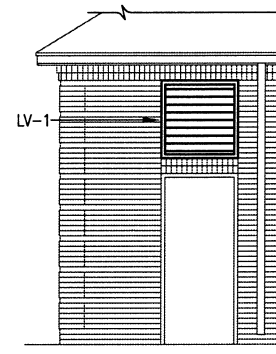


FAN SCHEDULE								
DESIGNATION	SERVES	CFM	EST. S.P. INCHES W.C.	MIN. H.P.	DRIVE	VOLTS/PHASE	MFGR/MODEL	COMMENT
EF-1	GEN. ROOM	3,130	.25	1	DIRECT	460/3	GREENHECK SQ-140-A	

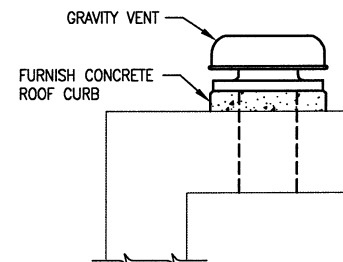
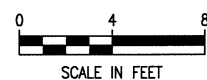
LOUVER SCHEDULE							
DESIGNATION	SERVES	F.A. IN SQ. FT.	EST. S.P. INCHES W.C.	MAX. VELOCITY FPM	WALL OPENING HxW IN INCHES	MFGR/MODEL	COMMENT
LV-1	GEN. ROOM	2.98	0.15	-	40"x40"	RUSKIN LAS-8	ACOUSTICAL LOUVER REF. DET 06, THIS SHEET FOR MOUNTING



02 DETAIL-ACOUSTICAL LOUVER LV-1
NOT TO SCALE



PARTIAL ELEVATION

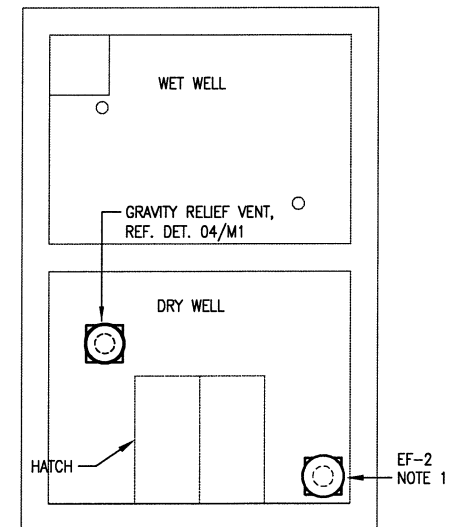


NOTES:

1. FURNISH AND INSTALL NEW GRAVITY RELIEF VENT W/ INSECT SCREEN. PROVIDE GREENHECK GRSR-10 OR EQUAL. CORE DRILL 10" HOLE INTO EXISTING DRY WELL TO ACCOMMODATE AIRFLOW. FINISHED INSTALLATION SHALL BE WATERTIGHT.

04 GRAVITY VENT MOUNTING

HVAC PLAN SYMBOLS LEGEND	
SYMBOL	DESCRIPTION
	DUCT SECTION (SUPPLY)
	DUCT SECTION (EXHAUST OR RETURN)
	TURNING VANES
	VOLUME DAMPER - MANUAL OPERATION
	DUCT (1ST FIGURE, SIDE SHOWN; 2ND FIGURE, SIDE NOT SHOWN) SIZE REPRESENTS AIR STREAM DIMENSION
	DIRECTION OF FLOW
	TRANSITION
	SUPPLY OUTLET, CEILING, SQUARE (TYPE AS SPECIFIED)
	SUPPLY OUTLET, CEILING, ROUND (TYPE AS SPECIFIED)
	THERMOSTAT
	UNIT HEATER (HORIZONTAL)
	UNIT HEATER (DOWNBLAST)



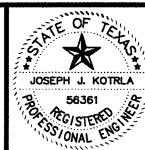
NOTES:

1. REPLACE EXISTING DRY WELL VENTILATION FAN WITH NEW EXHAUST FAN. NEW FAN SHALL BE 120V, 1φ AND SHALL PRODUCE 745 CFM @ 0.375" WG. PROVIDE DAYTON 4YC67 OR APPROVED EQUAL. REUSE EXISTING DUCT.
2. GREENBECK G-095
3. FURNISH AND INSTALL NEW AIRFLOW SWITCH IN EXISTING DUCT. RUN 2#14 IN CONDUIT 1041 TO INSTRUMENT PANEL. REF. SCHEMATIC SHEET E3. MCDONNELL AND MILLER SERIES AF3 AIR FLOW SWITCH INSTALLED.

05 EXISTING LIFT STATION PLAN

NOT TO SCALE

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NORTH TEXAS MUNICIPAL WATER DISTRICT
MECHANICAL
HVAC PLAN & DETAILS

BHC
PROJECT NO.
2007-104
DECEMBER, 2010

SHEET NO.
M1