



Illinois Department of Transportation

Division of Aeronautics

1 Langhorne Bond Drive / Capital Airport / Springfield, Illinois / 62707-8415

July 21, 2014

SUBJECT: Chicago Executive Airport
Wheeling/Prospect Heights, Illinois
Cook County
Illinois Project Number: PWK-4407
SBG Project Number: 3-17-SBGP-XX
Contract No. PA057
Item No. 7A, August 1, 2014 Letting
Addendum A

NOTICE TO PROSPECTIVE BIDDERS

Attached is an addendum to the plans or proposal. This addendum involves revised and/or added material.

Reason for Addendum:

Revisions based on utility information and reviews for watermain and telecommunications.

To All Plan Holders:

Item 7A Plan Revisions Summary:

Plan Sheet 1 of 31, **Cover Sheet:**

Noted Plan Sheets revised by Addendum and added Addendum Date.

Plan Sheet 2 of 31, **Summary of Quantities and General Notes:**

Noted Items and Quantities revised by Addendum.

Plan Sheet 10 of 31, **Existing Conditions – Proposed Removals:**

Revised information for existing utilities.

Plan Sheet 12 of 31, **Plan and Profile:**

Revised information for utilities in plan and profile.

Plan Sheet 13 of 31, **Grading Plan:**

Revised information for grades on utility structures.

Plan Sheet 14 of 31, **Drainage and Utility Plan:**

Revised watermain plan, layout and information.

Revised telecommunications protection and information.

Plan Sheet 15 of 31, **Drainage and Utility Profiles and Schedules:**

Revised watermain profiles, layout and information.

Revised Utility schedule.

Plan Sheet 17 of 31, **Drainage and Utility Details – Sheet 2:**

Revised and added details.

Plan Sheet 18 of 31, **Drainage and Utility Details – Sheet 3:**

Revised and added details.

Plan Sheet 27 to 30, **Cross Sections:**

Revised information for utilities in sections.

Item 7A Contract Revisions Summary:

Page 52 - 57, ITEM 760 - WATERMAIN

Delete Pages 52-57, Add 52A-58A

Item 7A Schedule of Prices Revisions Summary:

See attached Revised Schedule of Prices

Prime contractors must utilize the enclosed material when preparing their bid and must include any Schedule of Prices changes in their bidding proposal.

Bidders using computer-generated bids are cautioned to reflect any and all Schedule of Prices changes, if involved, into their computer programs.

Questions on this addendum may be directed to Jeremy R. Linke of Crawford, Murphy & Tilly, Inc. at 630-820-1022.

CHICAGO EXECUTIVE AIRPORT WHEELING/PROSPECT HEIGHTS, ILLINOIS

CONSTRUCTION PLANS

FOR

CHICAGO EXECUTIVE AIRPORT

CONSTRUCT ENGINEERED MATERIALS ARRESTING SYSTEM (EMAS) PHASE 3A - RUNWAY 16 END (34 DEPARTURE END) INCLUDING RUNWAY 16/34 OFA/RSA IMPROVEMENTS AND SITEWORK



811 Know what's below.
Call before you dig.

J.U.L.I.E.
JOINT UTILITY LOCATING
INFORMATION FOR EXCAVATORS
www.illinois1call.com

THE LOCATION, SIZE AND TYPE OF MATERIAL OF EXISTING UNDERGROUND UTILITIES INDICATED ON THE PLANS IS NOT REPRESENTED AS BEING ACCURATE, SUFFICIENT OR COMPLETE IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE ACTUAL LOCATIONS OF ALL SUCH FACILITIES, INCLUDING SERVICE CONNECTIONS TO UNDERGROUND UTILITIES. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL NOTIFY UTILITY COMPANIES OF HIS OPERATIONAL PLANS, OBTAIN FROM RESPECTIVE UTILITY COMPANIES DETAILED INFORMATION AND ASSISTANCE RELATIVE TO THE LOCATION OF THEIR FACILITIES AND THE WORKING SCHEDULE OF THE COMPANIES FOR REMOVAL OR ADJUSTMENT WHERE REQUIRED. IN THE EVENT AN UNEXPECTED UTILITY INTERFERENCE IS ENCOUNTERED DURING CONSTRUCTION, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE UTILITY COMPANY OF JURISDICTION AND THE ONE-CALL NOTICE SYSTEM. THE ENGINEER SHALL ALSO BE IMMEDIATELY NOTIFIED. ANY SUCH UTILITY OR SERVICES SHALL BE RESTORED TO SERVICE AT ONCE AND PAID FOR BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE CONTRACT.

CALL J.U.L.I.E. FOR UTILITY INFORMATION AT 811.

CHICAGO EXECUTIVE AIRPORT

TOWNSHIP: 42 NORTH
RANGE: 11 EAST
COOK COUNTY

WHEELING TOWNSHIP
(SECTION: 13)

CMT 11290-02-00
CRAWFORD MURPHY & TILLY, INC.
CONSULTING ENGINEERS

SHEETS: 1-18, 22-31
SUBMITTED BY JEREMY R. LINKE, P.E.

DATE 6/25/14

ZODIAC AEROSPACE ENGINEERED ARRESTING SYSTEMS CORPORATION
2239 High Hill Road
Logan Township, New Jersey, USA 08085
Phone 856.241.8620

SHEETS: 19-21
SUBMITTED BY JOHN BOSCO, P.E.

DATE 6/25/14

CHICAGO EXECUTIVE AIRPORT

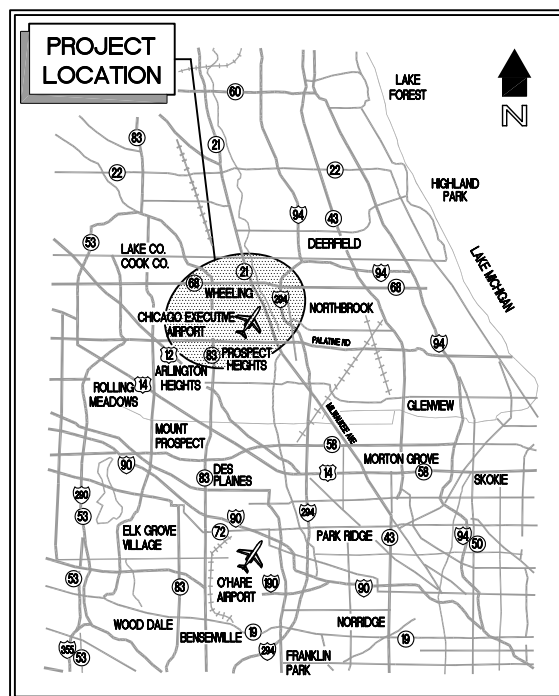
APPROVED _____
JAMIE L. ABBOTT, CM
EXECUTIVE DIRECTOR

DATE _____

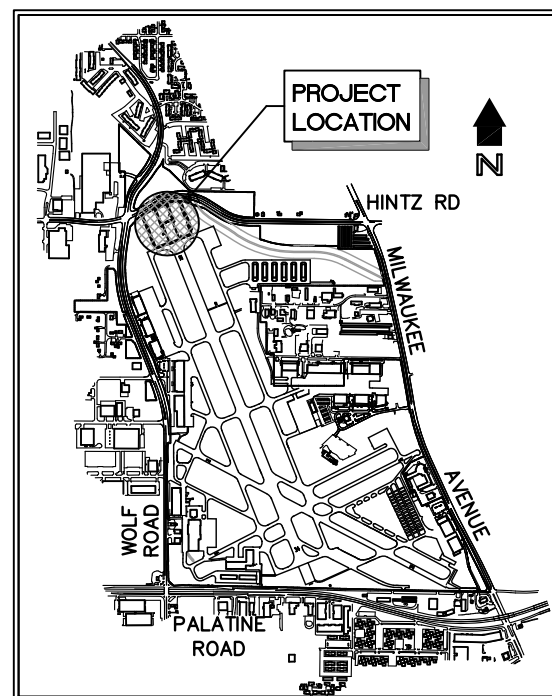
ILLINOIS PROJECT: PWK-4407
S.B.G. PROJECT: 3-17-SBGP-XX

DATE: AUGUST 1, 2014

REVIS: JULY 15, 2014



LOCATION MAP



SITE PLAN

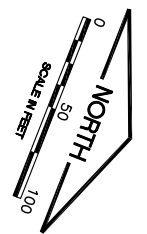
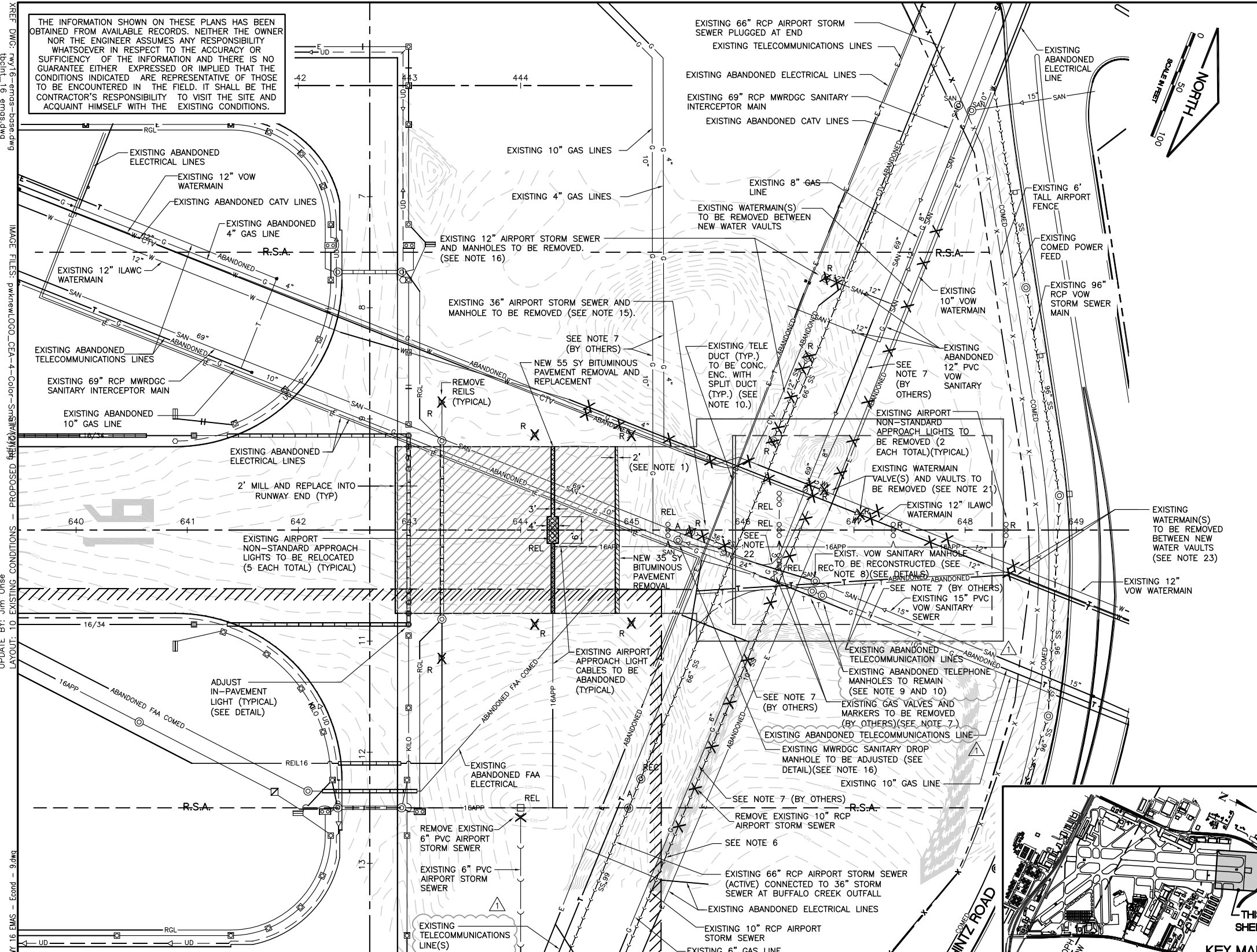
PROJECT INFORMATION	
CONTRACTOR:	
RESIDENT ENGINEER:	
ORIGINAL CONTRACT AMOUNT:	
FINAL CONSTRUCTION COST:	
IDOT LETTING DATE:	
IDOT AWARD DATE:	
NOTICE TO PROCEED:	
START OF CONSTRUCTION:	
SUBSTANTIAL COMPLETION:	
LOCAL AGENCY CONTACT INFORMATION	
VILLAGE OF WHEELING - 847.459.2600	
CITY OF PROSPECT HEIGHTS - 847.398.6070	
ENGINEER'S PROJECT PERMIT LOG	
NPDES #	
FAA AIRSPACE #	
CCDD LPC-663 DATED N/A	
MWRDGC PERMIT # 03-246 & RL 09-063	
VILLAGE APP FOR CONSTRUCTION PERMIT #	
VILLAGE FLOODPLAIN PERMIT #	
CONTRACTORS REGISTRATION WITH VILLAGE	
VILLAGE SITE ALTERATION PERMIT #	
CITY APPLICATION FOR PERMIT #	
CITY FLOODPLAIN PERMIT #	
CITY SITE GRADING PERMIT #	
CONTRACTORS REGISTRATION WITH CITY	

INDEX TO SHEETS

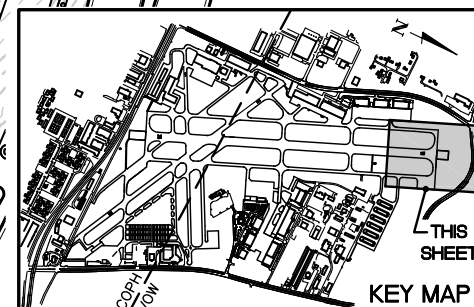
1	COVER SHEET
2	SUMMARY OF QUANTITIES AND GENERAL NOTES
3	SITE PLAN - PROJECT CONTROL PLAN
4	SEQUENCE OF CONSTRUCTION PER AC 150-5370-2F (LATEST EDITION)
5	SEQUENCE OF CONSTRUCTION GENERAL NOTES
6	SEQUENCE OF CONSTRUCTION SCHEDULE AND DETAILS
7	STORM WATER POLLUTION PREVENTION PLAN
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11	TYPICAL SECTIONS
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26	INDEX TO CROSS SECTIONS/EARTHWORK SUMMARY
27-30	CROSS SECTIONS - SHEET 1 TO SHEET 4
31	ENGINEERING INFORMATION

DATE: Thursday, July 17, 2014 11:32:24 AM
FILE: K:\Chicago\11290-02\11290-02.dwg
UPDATE BY: Jim Ohse
LAYOUT: 10 EXISTING CONDITIONS - PROPOSED REMOVALS
IMAGE FILES: pwkrhw\LOGO_CEA-4-Color-SHA1\11290-02.dwg
KREF DWG: 11290-02-11290-02.dwg
11290-02-11290-02.dwg

THE INFORMATION SHOWN ON THESE PLANS HAS BEEN OBTAINED FROM AVAILABLE RECORDS. NEITHER THE OWNER NOR THE ENGINEER ASSUMES ANY RESPONSIBILITY WHATSOEVER IN RESPECT TO THE ACCURACY OR SUFFICIENCY OF THE INFORMATION AND THERE IS NO GUARANTEE EITHER EXPRESSED OR IMPLIED THAT THE CONDITIONS INDICATED ARE REPRESENTATIVE OF THOSE TO BE ENCOUNTERED IN THE FIELD. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VISIT THE SITE AND ACQUAINT HIMSELF WITH THE EXISTING CONDITIONS.



LEGEND	
☒	EXISTING BASE MOUNTED MEDIUM INTENSITY TAXIWAY LIGHT
☒	EXISTING BASE MOUNTED HIGH INTENSITY RUNWAY LIGHT
⊗	EXISTING ELEVATED RETROREFLECTIVE MARKER
△	EXISTING RUNWAY END IDENTIFIER LIGHT (REIL)
⊞	EXISTING AIRFIELD GUIDANCE SIGN
⊞	EXISTING ROADWAY SIGN
⊞	EXISTING ELECTRICAL/STORM/SANITARY/TELEPHONE MANHOLE OR EXISTING WATER VALVE VAULT
⊞	EXISTING ELECTRICAL HANDHOLE
□	EXISTING STORM INLET
⊞	EXISTING SLOPE BOX
⊞	EXISTING FIRE HYDRANT
⊞	EXISTING WATER/GAS VALVE
⊞	EXISTING UTILITY PEDESTAL
⊞	EXISTING AIRPORT OWNED NON-STANDARD APPROACH LIGHTS
—	EXISTING CONDUIT/DUCT BANK
—16/34—	EXISTING RUNWAY 16/34 CIRCUIT
—G/D—	EXISTING TAXIWAY G AND D CIRCUIT
—KILO—	EXISTING TAXIWAY KILO CIRCUIT
—REIL16—	EXISTING RUNWAY 16 REIL CABLES
—16APP—	EXISTING RUNWAY 16 END AIRPORT APPROACH LIGHT CABLES
—FAA—	EXISTING FAA CABLES
—G—	EXISTING NATURAL GAS (NICOR)
—RGL—	EXISTING RUNWAY GUARD LIGHT CIRCUIT
—E—	EXISTING ELECTRICAL UTILITY (COMED)
—ABANDONED—	EXISTING ABANDONED UTILITY
—UD—	EXISTING UNDERDRAIN
○	EXISTING UNDERDRAIN COLLECTION STRUCTURE
—W—	EXISTING WATERMAIN (ILAWC AND VOW)
—SAN—	EXISTING SANITARY SEWER (MWRDGC)
—ILAWC—	ILLINOIS AMERICAN WATER COMPANY
—VOW—	VILLAGE OF WHEELING
—X—	EXISTING AIRFIELD FENCE
—○—	EXISTING VEHICLE GATE
—640—	EXISTING CONTOUR
—	EXISTING AIRPORT PROPERTY LINE
—T—	EXISTING TELEPHONE/COMMUNICATION CABLE (AT&T)
—COMED—	EXISTING COMED POWER CABLE (COMED)
▨	NEW VARIABLE DEPTH BITUMINOUS PAVEMENT MILLING (AR401650)(0.1'-2')(SEE GRADING PLAN)
▨	NEW REMOVE AND REPLACE BITUMINOUS PAVEMENT (AR401910)(DEPTHS VARY, SEE TYPICAL SECTION)
▨	NEW BITUMINOUS PAVEMENT REMOVAL (AR401900)(DEPTHS VARY, SEE TYPICAL SECTION)
X R	EXISTING ITEM TO BE REMOVED
REL	EXISTING ITEM TO BE RELOCATED
A	EXISTING ITEM TO BE ADJUSTED
REC	EXISTING ITEM TO BE RECONSTRUCTED
ILAWC	ILLINOIS AMERICAN WATER COMPANY
VOW	VILLAGE OF WHEELING
MWRDGC	METROPOLITAN WATER RECLAMATION DISTRICT OF GREATER CHICAGO



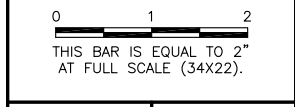
NOTES

1. THE EXISTING PAVEMENT TO BE REMOVED SHALL BE SAWED FULL DEPTH AROUND PERIMETER OF THE REMOVAL LIMITS. COST OF SAWCUTTING AND DISPOSAL OF PAVEMENT SHALL BE CONSIDERED INCIDENTAL TO THE ITEM.
2. THE TAXIWAY LIGHTS AND TRANSFORMER TO BE REMOVED SHALL BE TURNED OVER TO THE AIRPORT. LIGHT CONCRETE BASES SHALL BE DISPOSED OF OFF SITE.
3. ANY TEMPORARY CABLING REQUIRED FOR THIS PROJECT SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT.
4. IN AREAS WHERE REMOVED UTILITIES, UNDERDRAIN OR STORM SEWER IS BELOW LIMITS OF PROPOSED PAVEMENTS, TRENCH SHALL BE BACKFILLED WITH CONTROLLED LOW STRENGTH MATERIAL (CLSM) CONFORMING TO IDOT STANDARD FOR ROAD AND BRIDGE CONSTRUCTION SECTION 593, (MIX 1). COST OF BACKFILLING SHALL BE INCIDENTAL TO RESPECTIVE REMOVAL ITEM.
5. ITEMS REMOVED DUE TO PROPOSED PAVEMENT EXCAVATION WILL NOT BE PAID FOR SEPARATELY BUT WILL BE CONSIDERED INCIDENTAL TO UNCLASSIFIED EXCAVATION UNLESS OTHERWISE NOTED ON THE PLANS.
6. CONTRACTOR SHALL SEAL WITH ITEM 610 CONCRETE, BRICK AND MORTAR PIPE ENDS AT REMOVAL LIMITS WHERE NOTED TO THE SATISFACTION OF THE RESIDENT ENGINEER (SEE DETAIL). THIS SHALL BE CONSIDERED INCIDENTAL TO THE PIPE REMOVAL.
7. EXISTING GAS LINES (NICOR) NEED TO BE VERTICALLY ADJUSTED AND/OR RELOCATED (BY OTHERS) TO ACCOMMODATE NEW PAVEMENT STRUCTURE, EMAS CONCRETE GRADE BEAM AND R.S.A. GRADING REQUIREMENTS AND REQUIRED UTILITY CLEARANCES.
8. CONTRACTOR TO RECONSTRUCT SANITARY SEWER MANHOLE TO FINAL GRADE PER VILLAGE OF WHEELING STANDARDS. ACCESSIBLE EMAS BLOCKS TO BE INSTALLED OVER UTILITY MANHOLES TO ALLOW FOR ACCESS AS REQUIRED (SEE DETAILS).
9. NO ADJUSTMENT OF TELECOMMUNICATIONS MANHOLE IS ANTICIPATED. ACCESSIBLE EMAS BLOCKS TO BE INSTALLED OVER UTILITY MANHOLES TO ALLOW FOR ACCESS AS REQUIRED.
10. CONTRACTOR TO CONSTRUCT CONCRETE ENCASED PVC SPLIT DUCT OVER EXISTING TELECOMMUNICATIONS CABLES/CONDUIT WHERE TELECOMMUNICATION CABLES/CONDUIT AS REQUIRED BY TELECOMMUNICATION COMPANY (SEE DETAILS).
11. SPECIAL ATTENTION IS NECESSARY WHEN WORKING NEAR FAA POWER AND CONTROL CABLES. ANY FAA UTILITY THAT IS DAMAGED OR CUT DURING CONSTRUCTION SHALL BE REPAIRED IMMEDIATELY. FAA REQUIRES THAT ANY DAMAGED CABLE BE REPLACED IN ITS ENTIRETY, FROM POWER/CONTROL SOURCE TO THE EQUIPMENT/SERVICE. SPLICES OF ANY KIND WILL NOT BE PERMITTED. EXPOSURES OF ANY FAA CABLES MUST BE DONE BY HAND DIGGING OR HYDRO-EXCAVATION. NO ADDITIONAL COMPENSATION WILL BE MADE FOR LOCATING, REPLACEMENT OR REPAIR OF FAA FACILITIES OR CABLES BUT, SHALL BE INCIDENTAL TO THE CONTRACT.
12. THE CONTRACTOR SHALL TAKE THE NECESSARY PRECAUTIONS TO PROTECT THE EXISTING AND PROPOSED PAVEMENT STRUCTURE AND SUBGRADE FROM DAMAGE, WHICH MAY INCLUDE BUT NOT BE LIMITED TO USE OF TRACKED EQUIPMENT, SHORT HAUL TRUCKS OR TRACKED PAVERS, AT NO ADDITIONAL COST TO CONTRACTOR.
13. AT ALL TIMES THE CONTRACTOR SHALL PERFORM ALL MAINTENANCE WORK NECESSARY TO KEEP EACH PAVEMENT SECTION LAYER IN A SATISFACTORY CONDITION.
14. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DAMAGE DONE BY HIS HAULING, CONSTRUCTION EQUIPMENT AND CONSTRUCTION OPERATIONS. ANY WORK NECESSARY TO CORRECT DAMAGED WORK, EXISTING AND NEW PAVEMENT SHALL BE PERFORMED BY THE CONTRACTOR AND AT THE EXPENSE OF THE CONTRACTOR.
15. CONTRACTOR SHALL LEAVE A 2' STUB OF THE EXISTING STORM SEWER IN THE EXISTING 66" STORM SEWER. THE STUB WILL BE SEALED WITH ITEM 610 CONCRETE, BRICK AND MORTAR TO THE SATISFACTION OF THE RESIDENT ENGINEER. (INCIDENTAL)(SEE DETAIL).
16. CONTRACTOR TO ADJUST SANITARY SEWER DROP MANHOLE TO FINAL GRADE PER MWRDGC STANDARDS (SEE DETAILS).
17. CONTRACTOR SHALL REMOVE EXISTING CABLES IN ALL CONDUIT/UNIT DUCT FOR ALL CIRCUITS THAT ARE BEING REPLACED WITH NEW CIRCUITS (INCIDENTAL).
18. ALL EXISTING AIRFIELD CABLES SHOWN SPACED APART FROM EACH OTHER FOR CLARITY, EXACT LOCATIONS TO BE DETERMINED BY THE CONTRACTOR AND ASSOCIATED UTILITY OWNERS IN THE FIELD. (INCIDENTAL).
19. ITEMS REMOVED DUE TO PROPOSED PAVEMENT EXCAVATION WILL NOT BE PAID FOR SEPARATELY BUT WILL BE CONSIDERED INCIDENTAL TO UNCLASSIFIED EXCAVATION UNLESS OTHERWISE NOTED ON THE PLANS.
20. NO EXTRA COMPENSATION WILL BE ALLOWED FOR ANY VARIANCE IN EXISTING PAVEMENT SECTIONS ENCOUNTERED.
21. VAULT REMOVAL IS INCIDENTAL TO AR760907 REMOVE WATER VAULT.
22. CONTRACTOR SHALL PROTECT EXISTING MWRDGC JUNCTION CHAMBER LOCATED AT INTERCEPTOR REDIRECTION AT THIS LOCATION.
23. CONTRACTOR WILL BE REQUIRED TO INSTALL, TEST AND PERFORM PRESSURE CUTS ON NEW WATERMAIN PRIOR TO REMOVING EXISTING WATERMAIN. A MINIMAL SERVICE INTERRUPTION AS APPROVED BY ILAWC AND VOW SHALL BE ALLOWED IN ORDER TO SWITCH OVER FROM THE OLD WATERMAIN TO THE NEW WATERMAIN

IL. CONTRACT: PA057
IL. LETTING ITEM: 7A
IL. PROJECT: PWK-4407
A.I.P. PROJECT: 3-17-SBGP-XX

SURVEY BOOK # BOOK #

REVISIONS		
NUMBER	BY	DATE
1	JRL	7-15-14



CHICAGO EXECUTIVE AIRPORT
WHEELING PROSPECT HEIGHTS, ILLINOIS
CONSTRUCT EMAS - RUNWAY 16 END (34 DEPARTURE END)
EXISTING CONDITIONS - PROPOSED REMOVALS

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CHICAGO EXECUTIVE AIRPORT

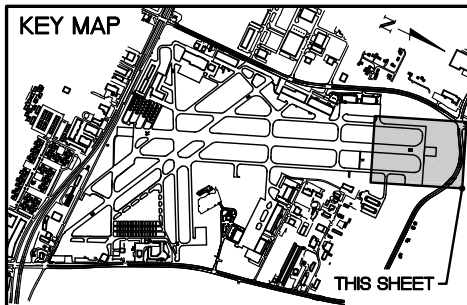
DESIGN BY:	JRL
DRAWN BY:	JRO
CHECKED BY:	DKP
APPROVED BY:	BW
DATE:	7/10/14
JOB No:	11290-02
FINAL	
SHEET 10 OF 31 SHEETS	

DATE: Thursday, July 17, 2014 11:33:06 AM
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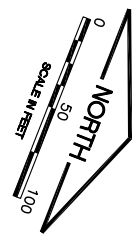
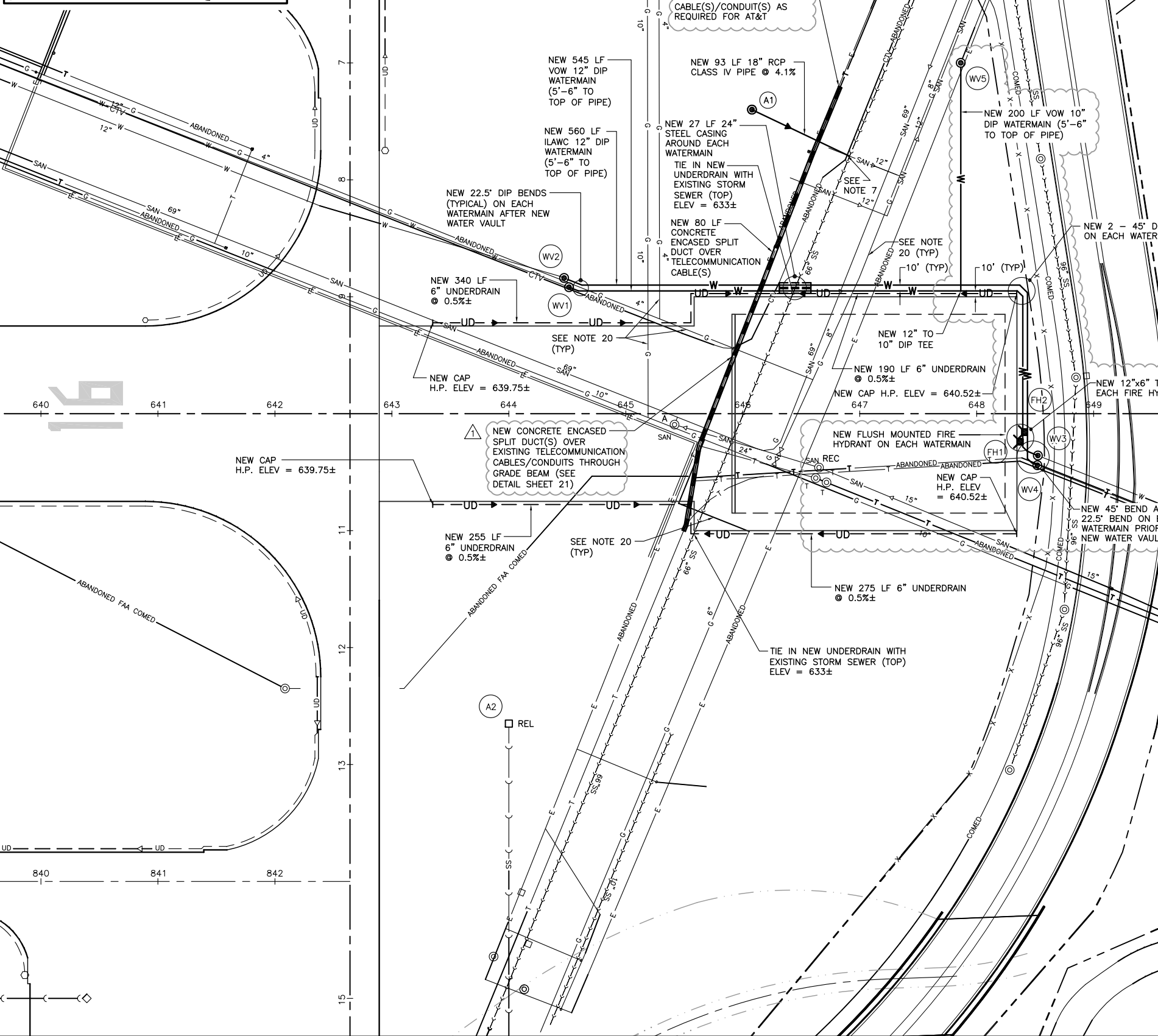
UPDATE BY: Jim Ohse
LAYOUT: 14 DRAINAGE AND UTILITY PLAN

IMAGE FILES: pwknewLOGO_CEA-4-Color-Stndl (2).jpg

REF DWG: RWY16-emas-base.dwg
112900200-V-VF3D01.dwg



THIS SHEET



LEGEND

- (WV) NEW WATER VALVE VAULT, VALVE AND TAPPING SLEEVE (760)
 - (A1) NEW STORM MANHOLE/INLET (751)
 - (A2) EXISTING MANHOLE/INLET
 - EXISTING STORM SEWER
 - EXISTING WATERMAIN
 - NEW WATERMAIN
 - SS --- NEW STORM SEWER
 - UD --- NEW 6" PERFORATED UNDERDRAIN (705)
 - EXISTING UNDERDRAIN
 - REC RECONSTRUCT ITEM
 - REL RELOCATED ITEM
 - A ADJUST ITEM
 - G --- EXISTING GAS LINE
 - COMED --- EXISTING COMED
 - SAN --- EXISTING SANITARY SEWER
 - T --- EXISTING TELEPHONE
 - E --- EXISTING ELECTRIC
 - NEW FLUSH MOUNTED FIRE HYDRANT
- NOTE: SEE STRUCTURE SCHEDULE FOR LOCATIONS

GENERAL NOTES

1. CONTRACTOR SHALL FIELD VERIFY EXISTING STORM SEWER/UNDERDRAIN INVERTS BEFORE INSTALLING PROPOSED PIPE, CONNECTIONS AND ORDERING MATERIALS.
2. ALL UNDERDRAIN CONNECTIONS, CORING INTO STRUCTURES, TEES, BENDS, STORM SEWER ETC. SHALL BE CONSIDERED INCIDENTAL TO THE COST OF THE UNDERDRAIN.
3. UNDERDRAIN SLOPES FOLLOW EDGE OF PAVEMENT SLOPE UNLESS OTHERWISE NOTED.
4. INSTALL PROPOSED ELECTRICAL DUCTS/CONDUITS TO BE CLEAR OF UNDERDRAIN, COST INCIDENTAL.
5. UNDERDRAIN CONFLICTS WITH EXISTING CONDITIONS SHALL BE RESOLVED AND COST SHALL BE INCIDENTAL TO UNDERDRAIN.
6. PRIOR TO ORDERING AND INSTALLING ALL FIELD TILE REPLACEMENT PIPE, THE CONTRACTOR SHALL FIELD VERIFY THE LOCATION AND INVERTS OF EXISTING FIELD TILE CONNECTIONS. ADJUSTMENTS SHALL BE MADE AS NECESSARY AT NO ADDITIONAL COST TO THE CONTRACT.
7. CORING OF DRAINAGE STRUCTURE, PIPES AND REMOVAL OF EXISTING STORM SEWER MANHOLE/INLET CONCRETE BENCHES TO FACILITATE CONNECTIONS OF PROPOSED STORM SEWER PIPE SHALL BE CONSIDERED INCIDENTAL TO THE COST OF THE PIPE.
8. ALL WORK TO BE PERFORMED IN ACCORDANCE WITH VILLAGE CODES, ORDINANCES AND PRACTICES.
9. ALL CONTRACTORS AND SUBCONTRACTORS TO BE REGISTERED WITH VILLAGE OF WHEELING.
10. ANY EXISTING FIELD TILE HIT DURING CONSTRUCTION SHALL BE RECONNECTED AT NO ADDITIONAL COST TO THE CONTRACT. IN THE EVENT THAT FIELD TILES ARE ENCOUNTERED DURING CONSTRUCTION, THEY SHALL BE SHOWN ON AS-BUILT PLANS.
11. ALL EXISTING OR PROPOSED UTILITIES SHALL BE HAND DUG, EXPOSED AND ELEVATIONS VERIFIED BY THE CONTRACTOR BEFORE STARTING THE PROPOSED UNDERDRAIN INSTALLATION. THE RESIDENT ENGINEER SHALL BE NOTIFIED OF ANY POTENTIAL CONFLICTS WITH THE PROPOSED UNDERDRAIN. IF CONFLICTS DO OCCUR, THE RESIDENT ENGINEER WILL PROVIDE REVISED GRADES AND SLOPES.
12. PROPOSED UNDERGROUND ELECTRICAL CONDUITS/CABLES AND OTHER UTILITIES SHALL BE INSTALLED AT AN ELEVATION THAT WILL NOT CONFLICT WITH THE PROPOSED UNDERDRAIN AT NO ADDITIONAL COST TO THE CONTRACT.
13. THE MAXIMUM ADJUSTMENT TO BE MADE WITH RINGS IS 18" TOTAL HEIGHT. ANY ADJUSTMENT GREATER THAN 18" REQUIRES STRUCTURE RECONSTRUCTION (SEE DETAILS).
14. UNDERDRAIN CONFLICTS WITH EXISTING CONDITIONS SHALL BE RESOLVED AND COST SHALL BE INCIDENTAL TO UNDERDRAIN CONSTRUCTION.
15. CONTRACTOR SHALL CAP ANY EXISTING OR NEW UNDERDRAIN ENDS THAT ARE NOT TO BE TIED INTO NEW OR EXISTING STRUCTURES OR STORM SEWERS (INCIDENTAL).
16. SUBTRACT 0.24 FEET FROM ELEVATIONS SHOWN ON PLANS (1929 DATUM) TO OBTAIN 1988 NAVD.
17. THE CONTRACTOR SHALL NOTIFY THE VILLAGE OF WHEELING A MINIMUM OF 48 HOURS PRIOR TO ANY UTILITY INSTALLATION.
18. ALL STORM SEWERS ON THE AIRPORT SITE ARE OWNED, OPERATED AND MAINTAINED BY THE CHICAGO EXECUTIVE AIRPORT.
19. REMOVAL ITEMS NOT SHOWN.
20. EXISTING GAS LINES (NICOR) NEED TO BE VERTICALLY ADJUSTED AND/OR RELOCATED (BY OTHERS) TO ACCOMMODATE NEW PAVEMENT STRUCTURE, EMAS CONCRETE GRADE BEAM AND R.S.A. GRADING REQUIREMENTS AND REQUIRED UTILITY CLEARANCES.
21. SEE SHEET 10 EXISTING CONDITIONS FOR ADDITIONAL UTILITY NOTES.

IL. CONTRACT: PA057
IL. LETTING ITEM: 7A
IL. PROJECT: PWK-4407
A.I.P. PROJECT: 3-17-SBGP-XX

SURVEY BOOK # BOOK #

REVISIONS		
NUMBER	BY	DATE
1	JRL	7-15-14

0 1 2
THIS BAR IS EQUAL TO 2" AT FULL SCALE (34X22).

CHICAGO EXECUTIVE AIRPORT WHEELING/PROSPECT HEIGHTS, ILLINOIS CONSTRUCT EMAS - RUNWAY 16 END (34 DEPARTURE END) DRAINAGE AND UTILITY PLAN

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DESIGN BY: JRL
DRAWN BY: JRO
CHECKED BY: DKP
APPROVED BY: BW
DATE: 7/10/14
JOB No: 11290-02

FINAL

SHEET 14 OF 31 SHEETS

DATE: Thursday, July 17, 2014, 11:33:51 AM
FILE: K:\Chicago\11290-02_Rwy16\EMAS\Draw\CD\URL 2014\Proposed Utility Profile Sheets.dwg

UPDATE BY: Jim Ohshe
LAYOUT: DRAINAGE AND UTILITY PROFILES AND SCHEDULE

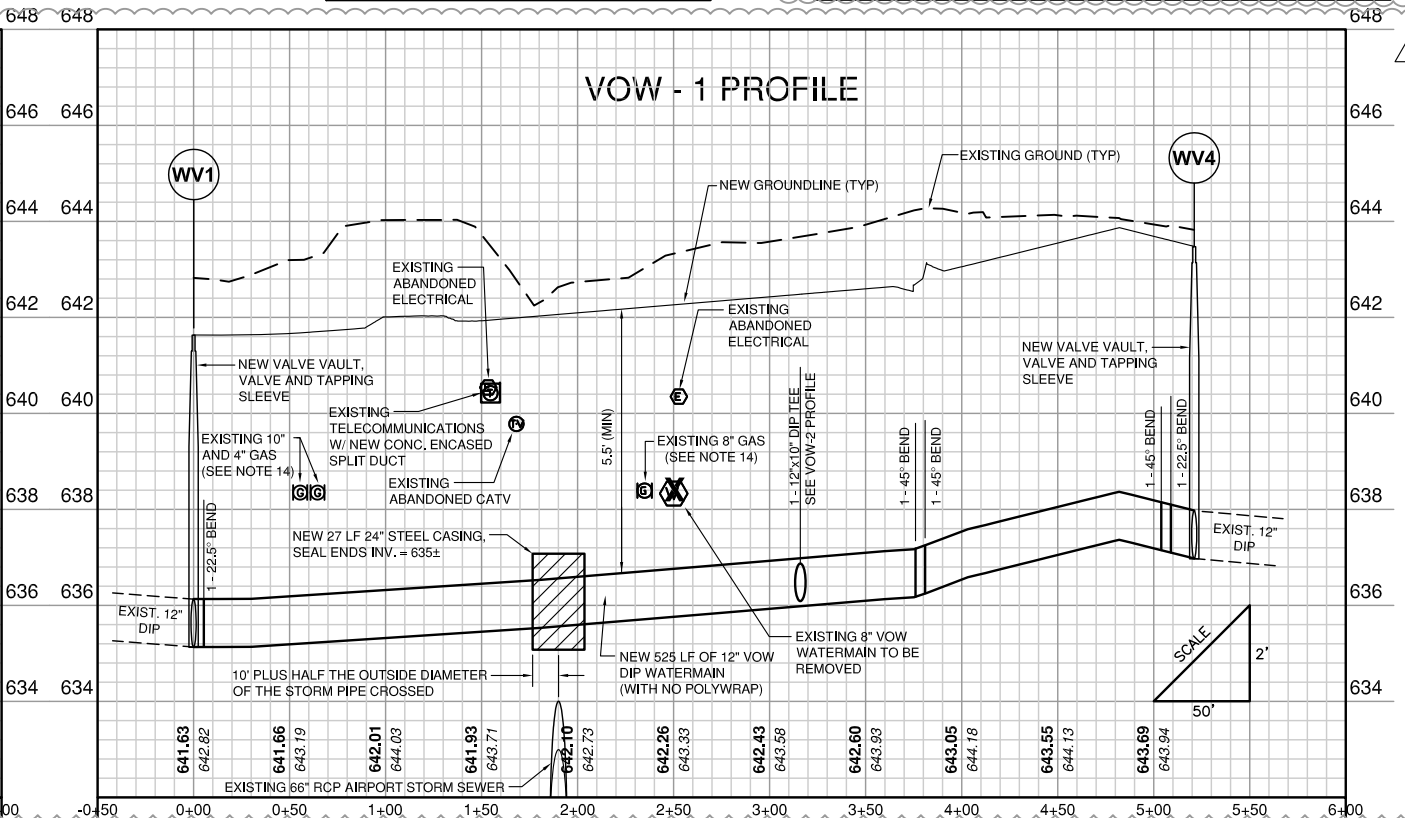
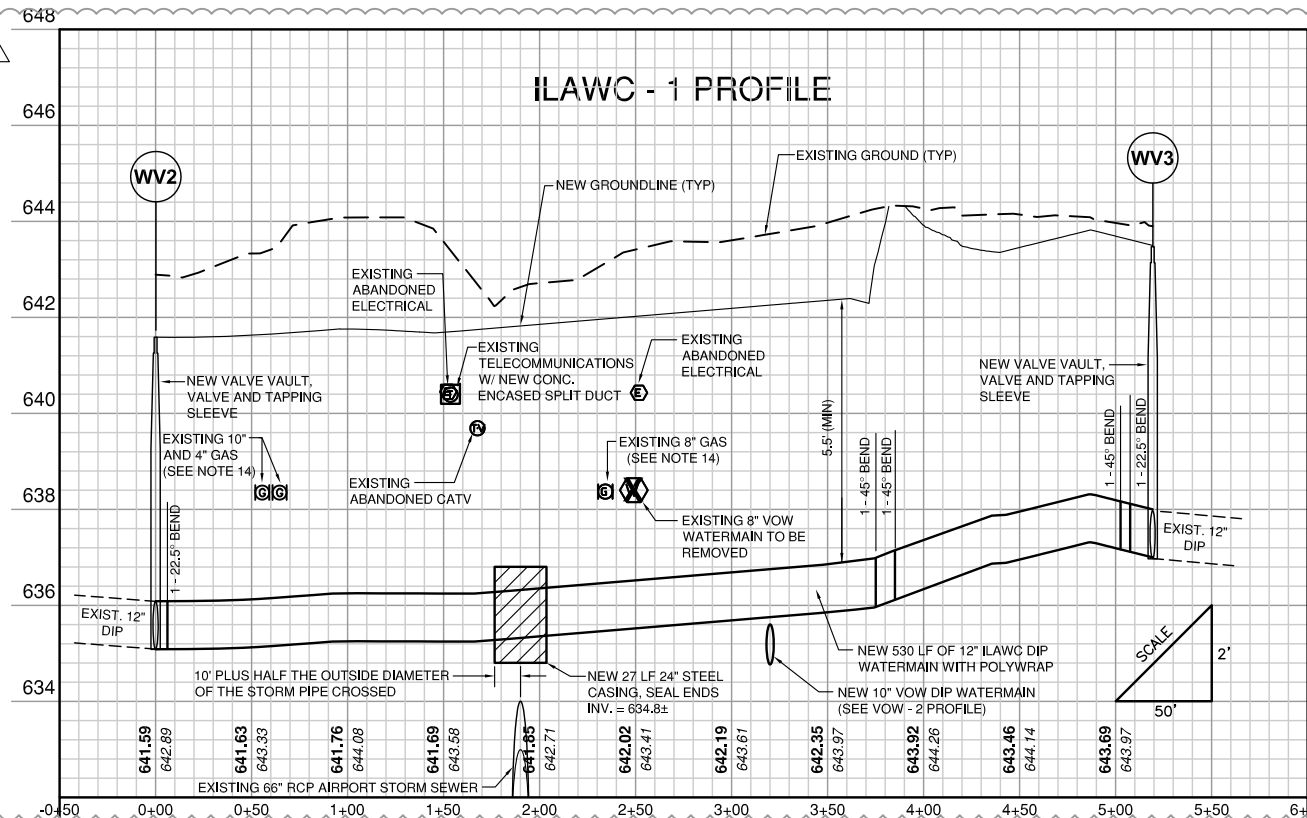
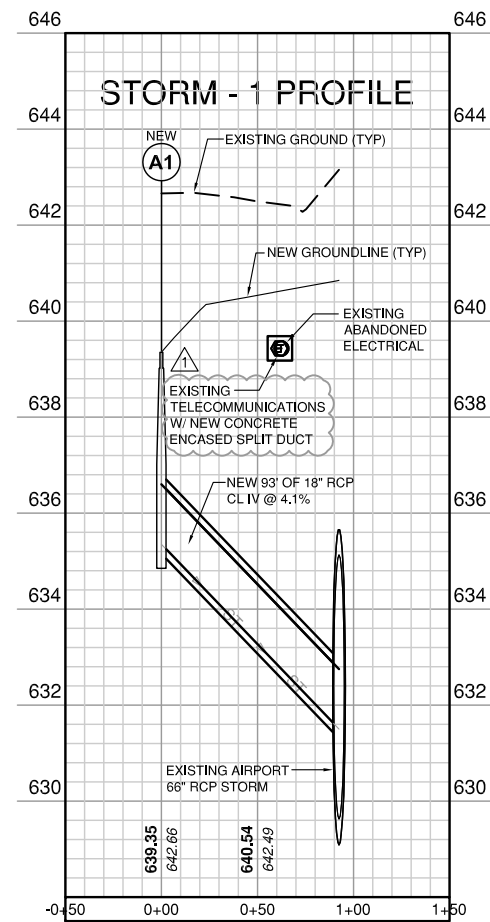
KREF DWG: 112900200_C-SPGC-new.dwg
IMAGE FILES: pwknewLOGO_CEA-4-COLOR-Stamp.dwg

DRAINAGE AND UTILITY SCHEDULE

STRUCTURE	TYPE	EXISTING RIM	NEW RIM	INVERT	NORTHING	EASTING	STATION/OFFSET
A1	NEW IDOT TYPE A MANHOLE - 4' DIA. W/ IDOT TYPE 1 FRAME AND OPEN LID	-	639.35	18" OUT 635.35	1987973.62	615285.16	STA. 646+07.85, 260' LT. CENTERLINE RUNWAY 16/34
A2	RELOCATED TYPE A INLET	638.69	638.69	6" OUT 636.08	1987974.45	615849.80	STA. 644+00.00, 265' RT. CENTERLINE RUNWAY 16/34
WV1	NEW VOW WATER VAULT	-	641.60	-	1987884.38	615484.03	STA. 644+51.45, 108.17' LT. CENTERLINE RUNWAY 16/34
WV2	NEW ILWC WATER VAULT	-	641.53	-	1987877.56	615478.27	STA. 644+47.23, 116.04' LT. CENTERLINE RUNWAY 16/34
WV3	NEW ILWC WATER VAULT	-	643.79	-	1988310.05	615469.68	STA. 648+52.30, 35.76' RT. CENTERLINE RUNWAY 16/34
WV4	NEW VOW WATER VAULT	-	643.71	-	1988312.72	615477.54	STA. 648+51.88, 44.06' RT. CENTERLINE RUNWAY 16/34
WV5	NEW VOW WATER VAULT	-	644.06	-	1988124.72	615182.03	STA. 647+86.36, 300.00' LT. CENTERLINE RUNWAY 16/34
FH1	NEW VOW FLUSH MOUNTED FIRE HYDRANT	-	643.66	-	1988291.51	615464.30	STA. 648+37.06, 23.92' RT. CENTERLINE RUNWAY 16/34
FH2	NEW ILWC FLUSH MOUNTED FIRE HYDRANT	-	643.69	-	1988292.20	615455.22	STA. 648+41.06, 15.73' RT. CENTERLINE RUNWAY 16/34

NOTES

- THE STATION AND OFFSET IS MEASURED TO THE CENTER OF THE STRUCTURE OR FIRE HYDRANT.
- SOME EXISTING AND NEW UTILITIES NOT SHOWN FOR CLARITY. SEE EXISTING CONDITIONS AND UTILITY SHEETS FOR UTILITY LOCATIONS.
- IF EXISTING FIELD OR DRAINAGE TILE IS ENCOUNTERED, THE CONTRACTOR SHALL TIE IN TO NEW STORM SEWER (INCIDENTAL TO NEW STORM SEWER).
- CONTRACTOR MAY SUBSTITUTE APPROVED CLSM MATERIAL IN LIEU OF AGGREGATE TRENCH BACKFILL AT NO ADDITIONAL COST.
- IDOT STANDARD DETAILS
TYPE A MANHOLE 4' DIA. #602401-03
TYPE 1 FRAME AND LIDS #604001-03
- CONTRACTOR SHALL REMOVE EXISTING WATERMAIN AND DISPOSE OF THE PIPE AT A LEGAL OFF-SITE LOCATION.
- ALL NEW PIPING SHALL BE CHLORINATED BY SWABBING THE INTERIOR OF THE PIPE WITH BLEACH.
- ALL NEW PIPING SHALL BE INSTALLED WITH MECHANICAL JOINTS.
- FOR ADDITIONAL INSTRUCTION, SEE THE WATERMAIN DETAIL SHEET OF THESE PLANS. FOR VILLAGE OF WHEELING AND ILLINOIS AMERICAN WATERMAIN.
- CASING SHALL EXTEND 10' BEYOND THE OUTSIDE EDGE OF THE SEWER PIPE CROSSED.
- CASING ENDS SHALL BE SEALED WITH SYNTHETIC RUBBER END SEALS WITH STAINLESS STEEL BANDS.
- THE CONTRACTOR SHALL INSTALL A MINIMUM OF THREE CASING CHOCKS PER PIPE LENGTH WITHIN THE CASING.
- FOR ADDITIONAL INSTRUCTION SEE THE WATERMAIN DETAIL SHEET OF THESE PLANS.
- EXISTING GAS LINES (NICOR) NEED TO BE VERTICALLY ADJUSTED AND/OR RELOCATED (BY OTHERS) TO ACCOMMODATE NEW PAVEMENT STRUCTURE, EMAS CONCRETE GRADE BEAM AND R.S.A. GRADING REQUIREMENTS AND REQUIRED UTILITY CLEARANCES.



IL. CONTRACT: **PA057**
IL. LETTING ITEM: **7A**
IL. PROJECT: **PWK-4407**
A.I.P. PROJECT: **3-17-SBGP-XX**

SURVEY BOOK # BOOK #

REVISIONS

NUMBER	BY	DATE
1	JRL	7-15-14

0 1 2
THIS BAR IS EQUAL TO 2" AT FULL SCALE (34X22).

**CHICAGO EXECUTIVE AIRPORT
WHEELING/PROSPECT HEIGHTS, ILLINOIS
CONSTRUCT EMAS - RUNWAY 16 END (34 DEPARTURE END)
DRAINAGE AND UTILITY
PROFILE AND SCHEDULE**

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CHICAGO EXECUTIVE AIRPORT

DESIGN BY: JRL/TMS
DRAWN BY: TMS/JRO
CHECKED BY: DKP
APPROVED BY: BW
DATE: 7/10/14
JOB No: 11290-02

FINAL

ILLINOIS AMERICAN WATER COMPANY (ILAWC) WATERMAIN DETAILS

MATERIALS SPECIFICATIONS FOR WATER DISTRIBUTION

1. PIPE MATERIAL FOR WATER MAINS IN ACCORDANCE WITH SECT. 15105

A. WATER MAINS SHALL BE CONSTRUCTED OF DUCTILE IRON PIPE 4" THROUGH 12" SHALL BE PRESSURE CLASS 350, PIPE 16" AND GREATER SHALL BE PRESSURE CLASS 250. ALL WITH CEMENT MORTAR LINING AND SEAL COATING (AWWA-C104).

B. THE JOINTS SHALL BE RUBBER GASKET PUSH-ON OR MECHANICAL (AWWA-C111). WATER MAIN FITTINGS SHALL BE OF DUCTILE IRON WITH CEMENT MORTAR LINING AND SEAL COATING WITH MECHANICAL JOINTS AND SHALL CONFORM TO (AWWA-C110).

C. ALL PIPE AND FITTINGS SHALL BE MANUFACTURED IN THE UNITED STATES UNLESS PRIOR APPROVAL IS RECEIVED FROM ILLINOIS AMERICAN.

2. FIRE HYDRANTS

A. FIRE HYDRANTS SHALL BE MUELLER "SUPER CENTURIAN". EACH HYDRANT SHALL HAVE A TRAFFIC FLANGE, BE COMPRESSION TYPE, OPEN WITH PRESSURE IN A COUNTERCLOCKWISE DIRECTION WITH RISING STEM, AND MEET OR EXCEED AWWA SPECIFICATION C-502.

B. THREADS FOR FIRE HYDRANTS IN ALL PROPERTIES SHALL BE NATIONAL STANDARD. HYDRANT IS TO HAVE ONE 1/2" PUMPER PORT AND TWO 2 1/2" HOSE PORTS.

C. HYDRANT LENGTH SHALL BE SUPPLIED TO PROVIDE A MINIMUM OF 5 FEET OF COVER OVER THE TOP OF THE WATER MAIN.

D. ALL FIRE HYDRANTS ARE TO BE SUPPLIED PAINTED TO THE EXTERIOR WITH TWO COATS OF INEMEC BRAND "INME-GLOSS" FEDERAL SAFETY YELLOW ENAMEL #2016 (OSHA 1910.44-ANSI 53.1).

E. MECHANICAL JOINT (MJ) ANCHORING TEES SHALL BE USED FOR THE AUXILIARY CONNECTION TO THE WATER MAIN. THE AUXILIARY VALVE SHALL BE MECHANICAL JOINT, RESILIENT WEDGE TYPE AS MANUFACTURED BY MUELLER.

F. CONNECTION OF THE AUXILIARY VALVE TO THE FIRE HYDRANT SHALL BE COMPLETED UTILIZING A 6" DIA. U.S. PIPE MJ ANCHORING (ONE ROTATING) COUPLING FOR LAYING DISTANCES 12" TO 16". FOR GREATER DISTANCES, USE CLASS 52 DUCTILE IRON PIPE WITH "MEGALUG" (AS MANUFACTURED BY EBBA IRON SALES, INC.) RETAINER GLANDS.

G. COVER FOR FIRE HYDRANT AUXILIARY VALVE SHALL BE PAINTED WITH INEMEC BRAND "INME-GLOSS" FEDERAL SAFETY BLUE ENAMEL #2045 (OSHA 1910.144-ANSI 53.1).

3. VALVES - 16" AND SMALLER

A. VALVES 16" AND SMALLER SHALL BE MECHANICAL JOINT FITTED RESILIENT WEDGE TYPE (COMPLETE WITH 304 STAINLESS STEEL NUTS AND BOLT) AND SHALL CONFORM TO AWWA C-506-30. VALVES SHALL OPEN COUNTERCLOCKWISE HAVING NON-RISING STEM.

B. VALVES SHALL BE RESILIENT WEDGE TYPE AS MANUFACTURED BY MUELLER.

4. VALVES - LARGER THAN 16"

A. VALVE SHALL BE MANUFACTURED MUELLER. GATE VALVES SHALL BE EPOXY COATED IN ACCORDANCE WITH AWWA C515.

B. VALVES LARGER THAN 16" SHALL BE OF THE BUTTERFLY TYPE WITH RUBBER SEAT AND STAINLESS RING ON THE DISC EDGE TO MATE WITH THE RUBBER SEAT. SHALL OPEN COUNTERCLOCKWISE, SHALL MEET OR EXCEED AWWA C-504 OR AWWA C-505.

5. VALVE BOX

THE ENTIRE VALVE BOX ASSEMBLY SHALL BE BINGHAM & TAYLOR 5 1/4" SHAFT, TWO PIECE SCREW TYPE ADJUSTABLE WITH VALVE HOLDER, SIZE 22.

6. VAULTS

A. VAULTS REQUIRED FOR PRESSURE TAPS, CHECK VALVES AND METER INSTALLATIONS. SHALL BE OF PRECAST CONCRETE UNIT CONSTRUCTION (ASTM C478) WITH A CONCENTRIC COKE AND JOINTS SEALED WITH BUTYL-BASED MATERIAL. CONCRETE ADJUSTMENT RINGS SHALL BE USED IF ADJUSTMENT IS NECESSARY. ADJUSTMENT SECTIONS SHALL NOT EXCEED 12" VERTICALLY OVERALL. ALL JOINTS SHALL BE SEALED WITH RUBBER-NEC. OR APPROVED EQUAL BUTYL-BASED MATERIAL. CEMENT GROUTING OF THE SEAMS AND JOINTS SHALL NOT BE COMPLETED. BUTYL MATERIAL SHALL TOTAL A MINIMUM WIDTH OF 2" AS APPLIED IN TWO PASSES.

B. A FLEXIBLE UNION BETWEEN THE PIPE AND MANHOLE WALL, MEETING ASTM C-923, CAST INTEGRALLY INTO THE MANHOLE WALL, SHALL BE PROVIDED FOR EACH PIPE CONNECTION TO THE MANHOLE. UNIONS SHALL BE INTERFACE LOCK JOINT FLEXIBLE MANHOLE SLEEVE, A-LOK MANHOLE PIPE CONNECTOR, LINK SEAL, OR APPROVED EQUAL. SUCH UNIONS SHALL BE SELECTED AND INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS FOR THE SPECIFIC TYPE OF PIPE USED. MANHOLE CASTING SHALL BE NEENAH R-1772-B OR APPROVED EQUAL. LID SHALL BE NEENAH FOUNDRY TYPE B "SELF SEALING" WITH THE WORD "WATER" IMPRINTED. MANHOLE STEPS SHALL BE M-A INDUSTRIES PLASTIC COATED. MANHOLES ARE TO BE WATER-TIGHT.

7. PRESSURE TAPS

PRESSURE TAPS SHALL BE PERFORMED IN THE PRESENCE OF AN ILLINOIS-AMERICAN REPRESENTATIVE. THE OUTSIDE DIAMETER OF THE CUTTER MUST BE AT LEAST 1/4" LESS THAN THE NOMINAL SIZE OF THE TAP TO BE MADE. ILLINOIS-AMERICAN MUST BE PROVIDED WITH A MINIMUM OF 48 HOURS ADVANCE NOTICE (830739-8831 ISRAEL SANDOVAL) SO THAT INSPECTION BY AN ILLINOIS-AMERICAN REPRESENTATIVE CAN BE SCHEDULED.

8. SIZING OF TAPS

A. TAPS 2" AND LARGER ON CAST IRON PIPE

I. CLOW MODEL F-5205 TAPPING SLEEVE OR APPROVED EQUAL FOR SIZES 4 INCH THROUGH 16 INCH. ALL BOLTS SHALL BE STAINLESS STEEL (TYPE 304), OR HIGH STRENGTH, CORROSION RESISTANT, LOW ALLOY MATERIAL, SUCH AS ARMO COR-TEN.

II. TAPS TWO INCH AND LESS MAY BE MADE BY DIRECT TAP CONNECTION ON CAST OR DUCTILE IRON MAINS. A TWO INCH DIRECT TAP ON A 6" CAST OR DUCTILE IRON MAIN IS NOT ALLOWED AND REQUIRES A SADDLE. ALL ASBESTOS CEMENT AND PVC MAIN TAPS REQUIRE SADDLES. SADDLES MUST BE OFF ALL BRONZE OR ALL STAINLESS STEEL CONSTRUCTION.

B. TAPS 2" OR LESS

I. ROMAC INDUSTRIES, INC. STYLE "SST" STAINLESS STEEL TAPPING SLEEVE MAY USE THE SLEEVE INDICATED ABOVE FOR CAST IRON, OR APPROVED EQUAL. TAPPING VALVES SHALL BE THE RESILIENT WEDGE TYPE AS MANUFACTURED BY MUELLER.

II. ALL BOLTS SHALL BE STAINLESS STEEL (TYPE 304), OR HIGH STRENGTH, CORROSION RESISTANT, LOW ALLOY MATERIAL, SUCH AS ARMO COR-TEN.

C. DUCTILE IRON PIPE

I. ROMAC INDUSTRIES, INC. STYLE "SST" STAINLESS STEEL TAPPING SLEEVE MAY USE THE SLEEVE INDICATED ABOVE FOR CAST IRON, OR APPROVED EQUAL. TAPPING VALVES SHALL BE THE RESILIENT WEDGE TYPE AS MANUFACTURED BY MUELLER.

II. ALL BOLTS SHALL BE STAINLESS STEEL (TYPE 304), OR HIGH STRENGTH, CORROSION RESISTANT, LOW ALLOY MATERIAL, SUCH AS ARMO COR-TEN.

STAINLESS STEEL: CASCADE CS22

9. SMALL SERVICE LINE APPURTENANCES

A. CURB BOX

a. CURB BOX SHALL BE MINNEAPOLIS PATTERN, 1-1/2 INCH INSIDE DIAMETER UPPER SECTION WITH A 6 FOOT FULLY EXTENDED LENGTH TAPPED 2 INCH AT THE BOTTOM AND SUPPLIED WITH A BUSHING FOR SMALLER CURB STOPS. THE LID SHALL BE A TWO-PIECE PLUG TYPE, WITH A BRASS SLEEVE IN THE CAP THREADED TO RECEIVE THE BRASS PLUG.

b. ACCEPTABLE UNITS ARE MUELLER H-10302-72" WITH LID AND PLUG #9660 WITH AN H-10343 BUSHING.

B. CURB STOP

a. FOR 1" SERVICE LINES THE CURB STOP SHALL BE MUELLER MARK II ORISEAL H-15155

b. FOR 1-1/2" AND 2" SERVICES THE CURB STOP SHALL BE MUELLER MARK II ORISEAL.

C. CORPORATION STOP

CORPORATION STOPS FOR 1" THROUGH 2" SHALL BE MUELLER 110 #15008

NOTE: THE CURB STOP AND CORPORATION STOP SHALL BE EQUIPPED WITH CONDUCTIVE COMPRESSION CONNECTIONS. FLARED OR SWEAT CONNECTIONS ARE NOT ALLOWED.

10. SERVICE LINES

A. ALL WATER SERVICE LINES SHALL BE TYPE K COPPER. ONE PIECE SHALL BE USED FROM THE MAIN TO THE CURB STOP AND ONE PIECE FROM THE CURB STOP TO THE METER SPREAD, FOR LENGTHS OF 100 FEET OR LESS. THE MINIMUM SIZE SHALL BE 1" FOR A SINGLE-FAMILY RESIDENCE. LINES FOR LARGER SERVICES SHALL BE IN ACCORD WITH AWWA MANUAL OF PRACTICE #22.

B. WHEN THE DISTANCE FROM THE CURB STOP TO THE METER IN THE BUILDING EXCEEDS THE LENGTH OF COPPER AVAILABLE, A CONNECTION MAY BE MADE USING A MUELLER THREE-PART UNION (MODEL H-15403) WITH CONDUCTIVE, COMPRESSION CONNECTIONS.

INSTALLATION SPECIFICATIONS

1. PROTECTION OF WATER MAINS FROM SANITARY SEWERS AND STORM SEWERS

WATER MAINS SHALL BE PROTECTED FOR HORIZONTAL AND VERTICAL SEPARATION IN ACCORDANCE WITH THE TECHNICAL POLICY STATEMENTS OR THE REQUIREMENTS OF MWRDCC, WHICHEVER APPLIES. FURTHER, NO WATER MAIN SHALL PASS THROUGH OR COME INTO CONTACT WITH ANY PART OF A SEWER OR SEWER MANHOLE.

2. DEPTH OF PIPE COVER

A MINIMUM DEPTH OF FIVE FEET SIX INCHES SHALL BE MAINTAINED FOR ALL WATER MAIN. THE FIVE FEET SIX INCHES DEPTH SHALL BE FROM PROPOSED FINAL GRADE ELEVATION TO THE CROWN OF THE MAIN. MAXIMUM DEPTH OF COVER SHALL BE SEVEN FEET.

MINIMUM BEARING AREA IN SQUARE FEET

PAPER SIZE	11-1/4	22-1/2	45	90	TEE	DEAD END
6"	1.0	2.5	4.5	8.0	5.5	5.5
8"	2.0	4.0	7.5	14.0	10.0	10.0
10"	3.0	6.0	11.0	20.5	14.5	14.5
12"	4.0	8.0	16.0	28.0	20.5	20.5

BEARING AREAS ARE BASED ON SOIL HAVING AN ALLOWABLE SAFE LATERAL BEARING OF ONE TON PER SQUARE FOOT. AREAS MUST BE REVISED FOR SOILS WITH A LOWER BEARING CAPACITY.

3. CORROSION PROTECTION

ALL PIPE, FITTINGS, FIRE HYDRANT LEADS, SLEEVES AND VALVES ARE TO BE ENCASED IN POLYETHYLENE IN ACCORDANCE WITH AWWA C-105, UNLESS A SOIL SURVEY HAS BEEN PERFORMED AND NON-CORROSIVE SOILS ARE SHOWN TO EXIST.

4. LAYING OF PIPE ON CURVES

A. LONG RADIUS CURVES, EITHER HORIZONTAL OR VERTICAL, MAY BE LAID WITH STANDARD PIPE BY DEFLECTIONS AT THE JOINTS. IF THE PIPE IS SHOWN CURVED ON THE PLANS AND NO SPECIAL FITTINGS ARE SHOWN, IT MAY BE ASSUMED THAT THE CURVES CAN BE MADE BY DEFLECTION OF THE JOINTS WITH STANDARD LENGTHS OF PIPE. IN APPROVED SITUATIONS, SHORTER LENGTHS OF PIPE MAY BE USED TO AVOID THE USE OF FITTINGS.

B. MAXIMUM DEFLECTIONS AT PIPE JOINTS AND LAYING RADIUS FOR VARIOUS PIPE LENGTHS SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS BASED ON THE SIZE OF PIPE AND TYPE OF JOINT. WHEN RUBBER GASKETED PIPE IS LAID ON A CURVE, THE PIPE SHALL BE JOINTED IN A STRAIGHT ALIGNMENT, THEN DEFLECTED. TRENCHES SHALL BE MADE WIDER ON CURVES FOR THIS PURPOSE.

5. THRUST RESTRAINT

ALL FITTINGS, BENDS AND HYDRANTS SHALL BE PROPERLY BRACED BY MEANS OF RESTRAINED JOINT ASSEMBLIES AS SHOWN IN THE STANDARD DETAIL OR USING METHODS AS DESCRIBED BELOW.

A. MECHANICAL JOINT FITTINGS, BENDS AND HYDRANTS SHALL BE PROPERLY ANCHORED BY MEANS OF "MEGALUG" (AS MANUFACTURED BY EBBA IRON SALES, INC.) RETAINER GLANDS. ALL SET SCREWS SHALL BE INSTALLED AND TIGHTENED IN ACCORD WITH MANUFACTURER'S RECOMMENDATIONS.

B. ALL PUSH-ON JOINT FITTINGS AND BENDS SHALL BE PROPERLY ANCHORED BY MEANS OF A U.S. PIPE FIELD LOK GASKET OR APPROVED EQUAL.

C. ALL PUSH-ON OR MECHANICAL JOINT FITTINGS, BENDS, AND HYDRANTS SHALL BE PROPERLY ANCHORED BY MEANS OF A CONCRETE THRUST BLOCK AS OUTLINED IN THE STANDARD DETAILS. THE MINIMUM BEARING AREA SPECIFICATIONS TO BE UTILIZED ARE OUTLINED AS FOLLOWS:

D. REACTION BLOCKING SHALL BE DESIGNED FOR A MINIMUM INTERNAL PIPE PRESSURE OF 300 PSI. THE BLOCKING SHALL BE KEPT CLEAR OF THE ENTIRE BELL CONFIGURATION OF ANY ADJACENT JOINT AND SHALL BE AT LEAST AS LARGE AS IS NECESSARY TO RESTRAIN THE FITTINGS FROM MOVEMENT. ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI AT THE END OF 28 DAYS.

E. FIRE HYDRANT SHALL BE POSITIVELY ANCHORED DIRECTLY TO THE TEE ON THE MAIN USING MECHANICAL JOINT ANCHORING FITTINGS, OR OTHER APPROVED RESTRAINING SYSTEM.

F. VALVES AT TEES AND CROSSSES, WHERE REQUIRED, SHALL BE ANCHORED DIRECTLY TO THE FITTING USING CLOW (OR EQUAL) MECHANICAL JOINT ANCHORING FITTINGS, OR OTHER APPROVED RESTRAINING SYSTEM.

6. BEDDING

A. TYPE I BACKFILL IN ACCORDANCE WITH ANSI/AWWA C600-87 AS ILLUSTRATED IN THE STANDARD DETAIL SHALL BE USED UNLESS THE MAIN IS BEING LAID UNDER PAVEMENT OR WITHIN RIGHT-OF-WAY.

B. IF SOIL CONDITIONS ARE ENCOUNTERED WHICH REQUIRE REMOVAL OF UNSUITABLE MATERIAL BELOW THE DEPTH OF THE STANDARD BEDDING, THE MATERIAL REMOVED SHALL BE REPLACED WITH GRANULAR MATERIAL OF THE GRADATION APPROVED BY ILLINOIS-AMERICAN.

TESTING AND DISINFECTION

1. PRESSURE TEST

A. ALL NEWLY LAID WATER MAIN SHALL BE SUBJECTED TO HYDROSTATIC PRESSURE TEST EQUAL TO 150 PSI FOR A PERIOD OF AT LEAST TWO HOURS. THE PRESSURE SHALL BE MAINTAINED AT 150 PSI FOR THE DURATION OF THE TEST. EACH SECTION OF THE MAIN TO BE TESTED, AS DETERMINED BY ILLINOIS-AMERICAN, SHALL BE SLOWLY FILLED WITH WATER TO THE SPECIFIED TEST PRESSURE UTILIZING A TEST PUMP CONNECTED TO THE MAIN IN A SATISFACTORY MANNER. THE TEST PUMP, PIPE CONNECTION AND ALL NECESSARY APPARATUS INCLUDING GAUGES AND THE METERS, SHALL BE FURNISHED BY THE CONTRACTOR.

B. BEFORE APPLYING THE SPECIFIED TEST PRESSURE, ALL AIR SHALL BE EXPELLED FROM THE MAIN UTILIZING FIRE HYDRANTS OR PRESSURE TAPS, IF NECESSARY, INSTALLED AT POINTS OF HIGHEST ELEVATION ALONG THE WATER MAIN INSTALLATION.

C. CONNECTION TO ILLINOIS-AMERICAN'S WATER SYSTEM WILL NOT BE PERMITTED UNLESS THE INSTALLATION HAS BEEN CONSTRUCTED IN ACCORDANCE WITH APPROVED PLANS AND SPECIFICATIONS AND HAS BEEN SATISFACTORY CRILEY PRESSURE TESTED IN THE PRESENCE OF AN ILLINOIS-AMERICAN DESIGNATED REPRESENTATIVE. DURING THE TEST, THE ENTIRE LENGTH OF MAIN BEING TESTED, ALONG WITH ALL APPURTENANCES, WILL BE CAREFULLY INSPECTED BY AN ILLINOIS-AMERICAN REPRESENTATIVE.

D. ANY CRACKED OR DEFECTIVE PIPES, FITTINGS, VALVES OR HYDRANTS DISCOVERED AS A RESULT OF THIS PRESSURE TEST SHALL BE REMOVED AND REPLACED BY THE CONTRACTOR AT HIS EXPENSE WITH SOUND, NEW MATERIAL AND RETESTED UNTIL SATISFACTORY TO AN ILLINOIS-AMERICAN REPRESENTATIVE. WHEN PRESSURE TESTING AGAINST AN EXISTING WATER MAIN VALVE AND SHOULD THE VALVE BE FOUND TO BE LEAKING OR FAIL DURING THE PRESSURE TEST, THE CONTRACTOR SHALL PROVIDE AND INSTALL A NEW VALVE AT THE LOCATION OF THE DEFECTIVE VALVE.

2. LEAKAGE TEST

IN CONJUNCTION WITH THE PRESSURE TEST, A LEAKAGE TEST SHALL BE CONDUCTED TO DETERMINE THE QUANTITY OF WATER LOST BY LEAKAGE UNDER THE SPECIFIED TEST PRESSURE. THE ALLOWABLE LEAKAGE IN GALLONS PER HOUR PER PIPELINE SHALL NOT BE GREATER THAN THAT DETERMINED BY THE FORMULA:

$$L = \frac{ND\sqrt{P}}{7400}$$

L = ALLOWABLE LEAKAGE IN GALLONS PER HOUR
 N = NUMBER OF JOINTS FOR LENGTH OF PIPELINE TESTED
 D = NOMINAL DIAMETER OF THE PIPE IN INCHES
 P = AVERAGE TEST PRESSURE DURING THE LEAKAGE TEST IN POUNDS PER SQUARE INCH GAUGE

THE TEST WILL BE CONDUCTED AT AN AVERAGE PRESSURE OF NOT LESS THAN 200 PSI AT THE HIGH POINT OF THE MAIN AND FOR A PERIOD OF NOT LESS THAN TWO HOURS.

3. DISINFECTION OF WATER

A. THE SECTION OF MAIN TO BE DISINFECTED SHALL FIRST BE FLUSHED TO REMOVE ANY SOLIDS OR CONTAMINATED MATERIAL THAT MAY HAVE BECOME LOGGED IN THE MAIN. ALL FLUSHING IS TO BE DONE UNDER CONTINUOUS SUPERVISION OF AN ILLINOIS-AMERICAN REPRESENTATIVE.

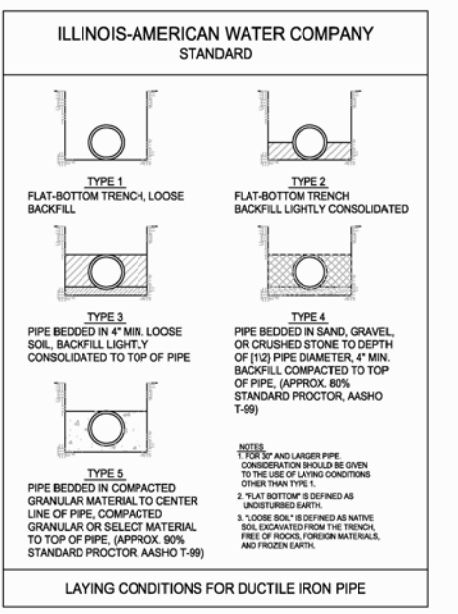
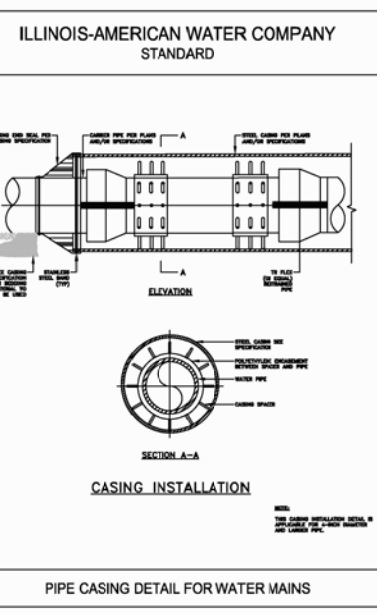
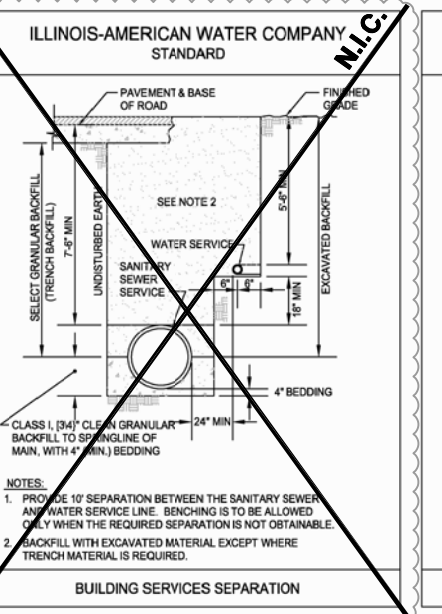
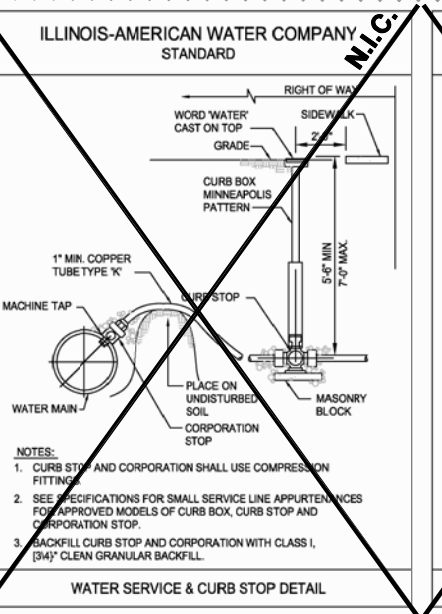
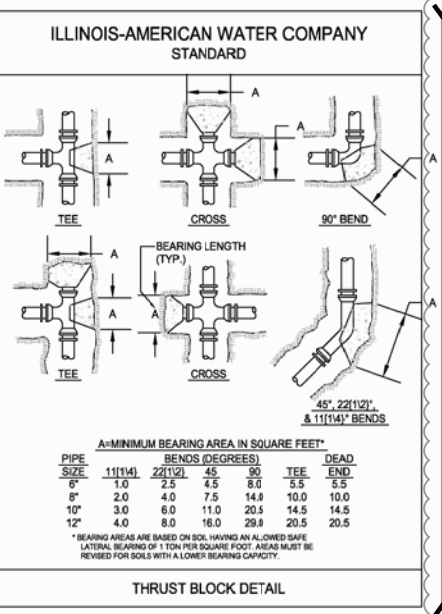
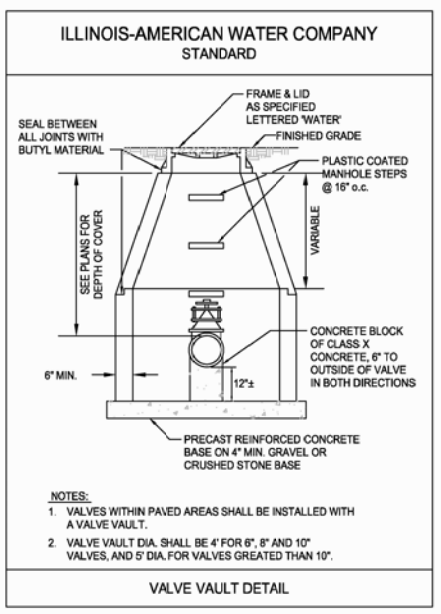
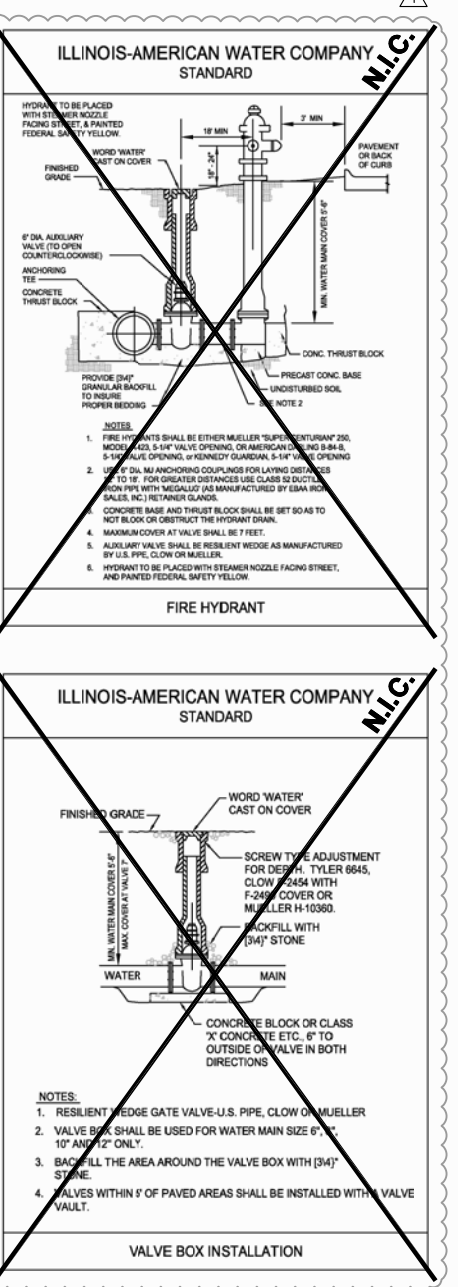
B. NO VALVES OR FIRE HYDRANTS OR OTHER APPURTENANCES ARE TO BE PURGED OR FLUSHED UNLESS AN ILLINOIS-AMERICAN REPRESENTATIVE IS PRESENT. ILLINOIS-AMERICAN MUST BE PROVIDED WITH A MINIMUM OF 48 HOURS ADVANCE NOTICE (830739-8849 TOM CHINSKE) SO THAT INSPECTION BY AN ILLINOIS-AMERICAN REPRESENTATIVE CAN BE SCHEDULED.

C. ALL CHLORINATION, FLUSHING, AND TESTING IS TO BE DONE IN STRICT ACCORD WITH STANDARD SPECIFICATIONS FOR WATER & SEWER MAIN CONSTRUCTION IN ILLINOIS' DIVISION IV, SECTION 41-2.14. ALL NEW MAINS SHALL BE CHLORINATED SO THAT THE INITIAL CHLORINE RESIDUAL OF NOT LESS THAN 25 MG/L AND THAT A CHLORINE RESIDUAL OF NOT LESS THAN 10 MG/L REMAINS IN THE WATER AFTER STANDING 24 HOURS IN THE PIPE. WATERMAIN DISINFECTION IS PER AWWA STANDARD C651. ALL CHLORINE CONCENTRATIONS LISTED ARE FREE CHLORINE. WATER TEST SAMPLES ARE TO BE COLLECTED ON TWO CONSECUTIVE DAYS AFTER CHLORINATION AND FINAL FLUSHING. THE FIRST SAMPLE IS TO BE COLLECTED 24 HOURS AFTER THE FINAL FLUSHING. CHLORINE SHALL BE APPLIED IN LIQUID OR GAS FORM.

OPERATION OF WATER SYSTEM

THE OPERATION OF MAIN VALVES AND FIRE HYDRANTS ON THE WATER SYSTEM IN SERVICE OFTEN RESULTS IN DISTURBANCE OF THE NATURAL SEDIMENTS AND MINERAL DEPOSITS IN MAINS, CAUSING PROBLEMS FOR ILLINOIS-AMERICAN'S CUSTOMERS. ILLINOIS-AMERICAN HAS A RESPONSIBILITY TO PROVIDE ITS CUSTOMERS THE HIGHEST LEVEL OF SERVICE POSSIBLE. THEREFORE, ILLINOIS-AMERICAN HAS ADOPTED A STRICT POLICY THAT NO ONE, OTHER THAN AN EMPLOYEE OF ILLINOIS-AMERICAN, UNLESS EXPRESSLY AUTHORIZED, IS TO OPERATE ANY VALVE, FIRE HYDRANT, OR OTHER APPURTENANCE OF WATER SYSTEM THAT IS IN SERVICE OR WHICH WILL AFFECT THE SYSTEM THAT IS IN SERVICE. THIS OPERATION IS TO BE PERFORMED BY AN EMPLOYEE OF ILLINOIS-AMERICAN OR UNDER HIS DIRECT SUPERVISION. ILLINOIS-AMERICAN MUST BE PROVIDED WITH A MINIMUM OF 48 HOURS ADVANCE NOTICE (830739-8831) SO THAT THE FILLING/FLUSHING OPERATIONS CAN BE SCHEDULED.

CONTRACTOR WILL BE REQUIRED TO INSTALL, TEST AND PERFORM PRESSURE CUTS ON NEW WATERMAIN PRIOR TO REMOVING EXISTING WATERMAIN. A MINIMAL SERVICE INTERRUPTION AS APPROVED BY ILAWC SHALL BE ALLOWED IN ORDER TO SWITCH OVER FROM THE OLD WATERMAIN TO THE NEW WATERMAIN



IL. CONTRACT: PA057
 IL. LETTING ITEM: 7A
 IL. PROJECT: PWK-4407
 A.I.P. PROJECT: 3-17-SBGP-XX

SURVEY BOOK # BOOK #

REVISIONS		
NUMBER	BY	DATE
1	JRL	7-15-14

0 1 2
 THIS BAR IS EQUAL TO 2" AT FULL SCALE (34X22).

CHICAGO EXECUTIVE AIRPORT
 WHEELING/PROSPECT HEIGHTS, ILLINOIS
 CONSTRUCT EMAS - RUNWAY 16 END (34 DEPARTURE END)

DRAINAGE AND UTILITY DETAILS
SHEET 2

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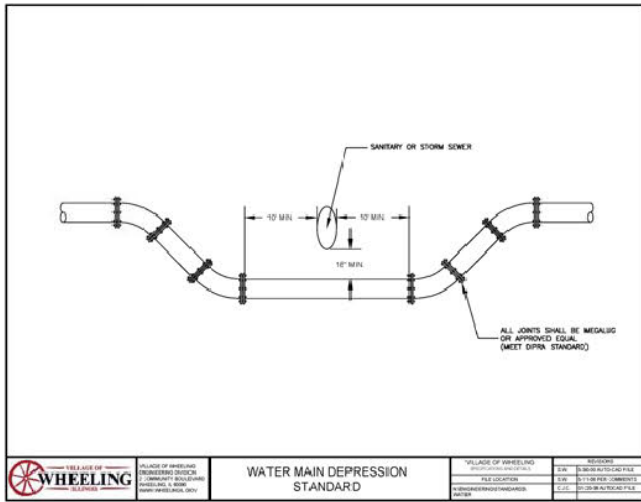
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 JOB No: 11290-02

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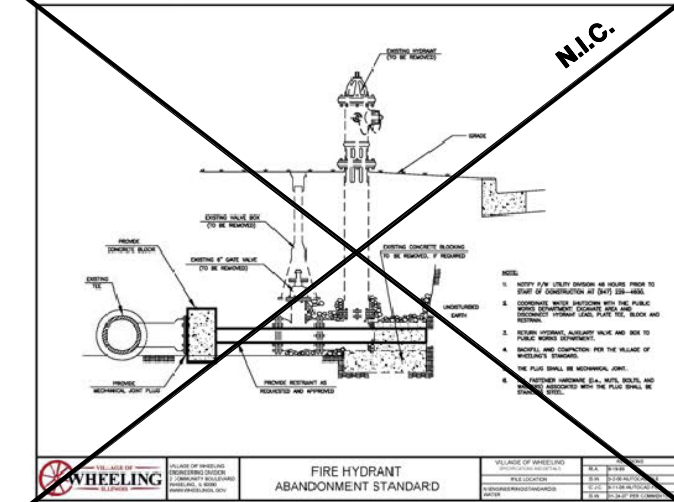
SHEET 17 OF 31 SHEETS

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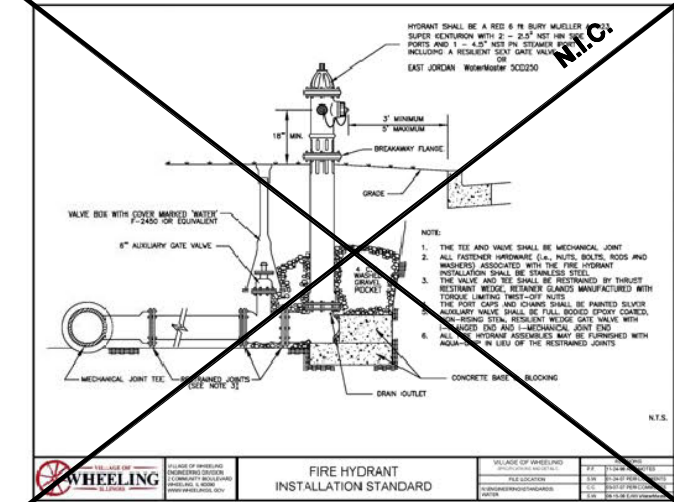
VILLAGE OF WHEELING WATERMAIN DETAILS



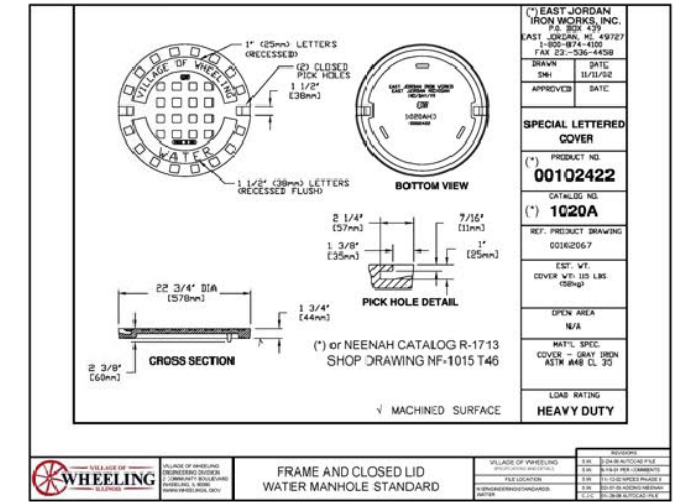
WHEELING WATER MAIN DEPRESSION STANDARD



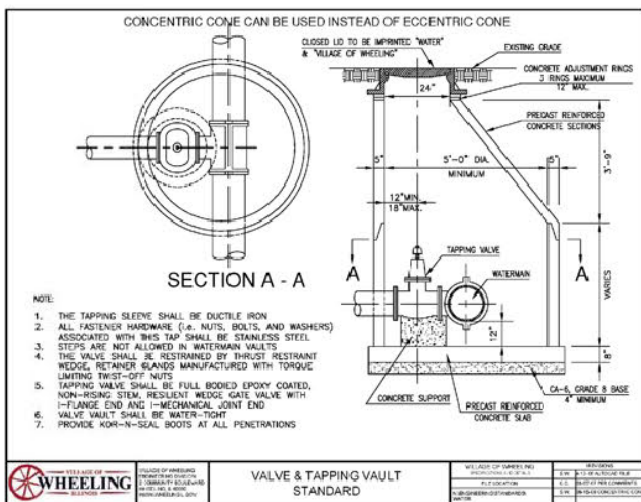
WHEELING FIRE HYDRANT ABANDONMENT STANDARD



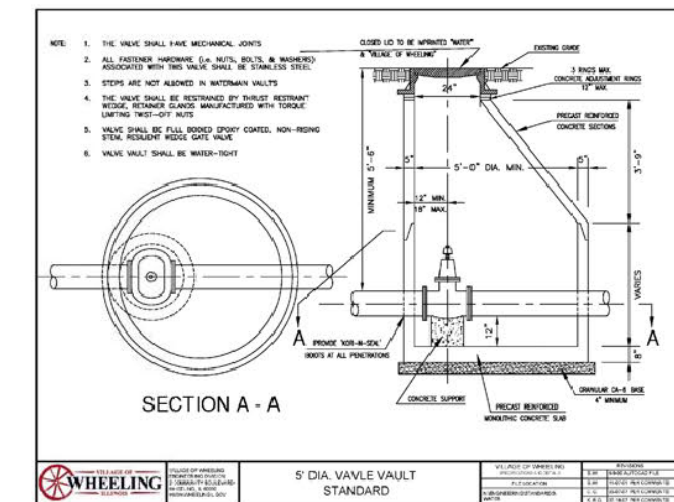
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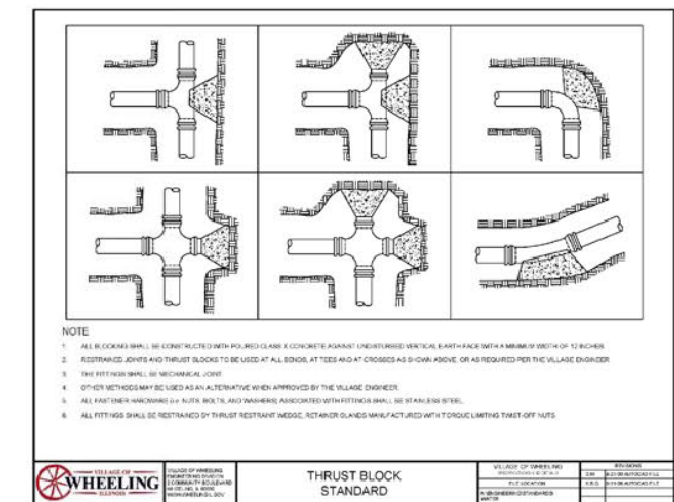
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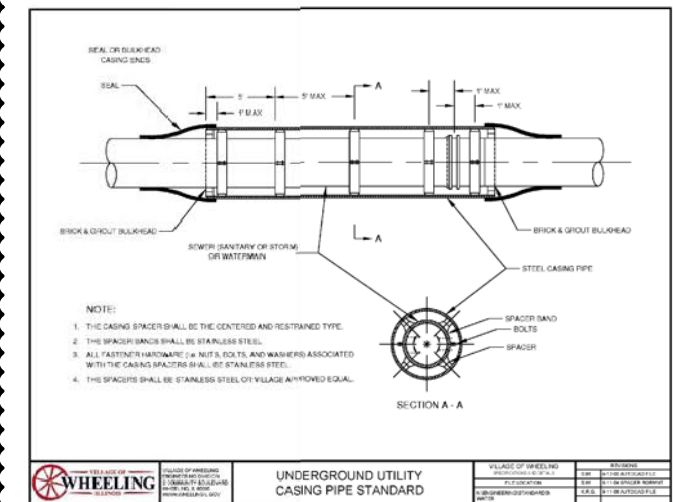
WHEELING VALVE & TAPPING VAULT STANDARD



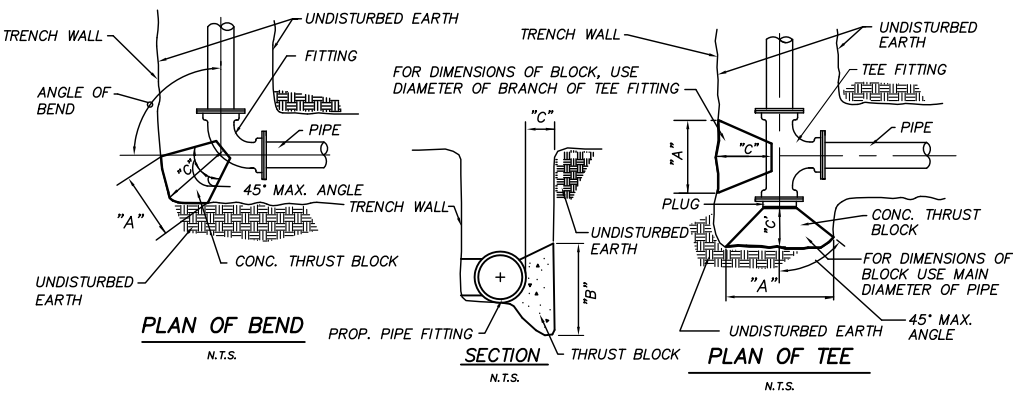
WHEELING 5' DIA. VAVLE VAULT STANDARD



WHEELING THRUST BLOCK STANDARD



WHEELING UNDERGROUND UTILITY CASING PIPE STANDARD

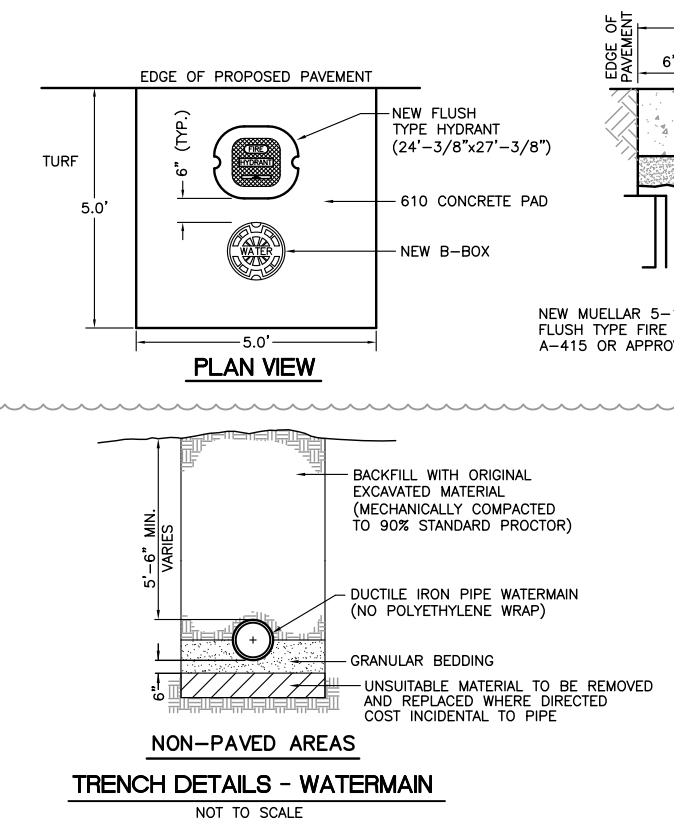


THRUST BLOCK DETAILS (FOR HORIZONTAL ALIGNMENT)

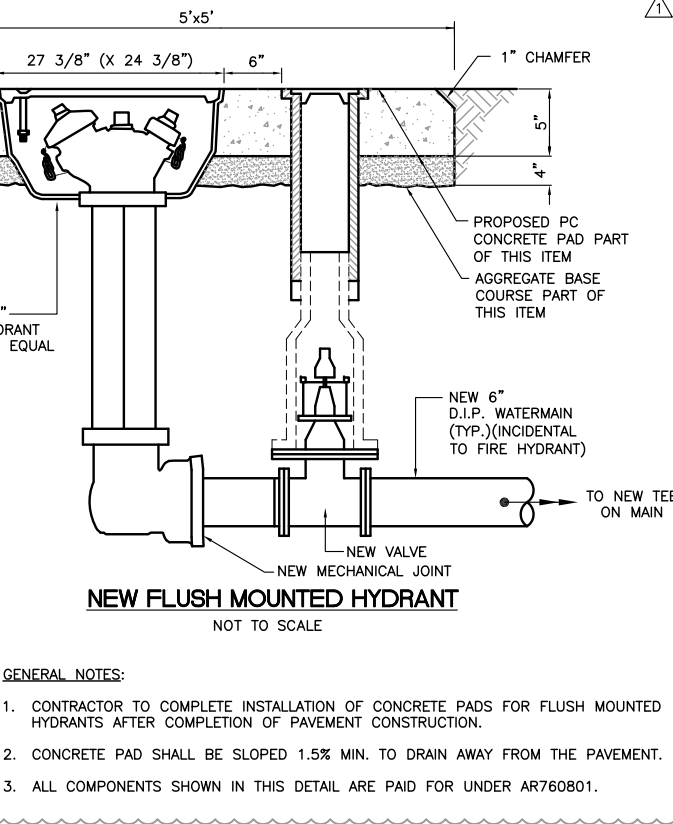
CONTRACTOR WILL BE REQUIRED TO INSTALL, TEST AND PERFORM PRESSURE CUTS ON NEW WATERMAIN PRIOR TO REMOVING EXISTING WATERMAIN. A MINIMAL SERVICE INTERRUPTION AS APPROVED BY VOW SHALL BE ALLOWED IN ORDER TO SWITCH OVER FROM THE OLD WATERMAIN TO THE NEW WATERMAIN

- NOTES:**
1. ALL BENDS, TEES, PLUGS, FITTINGS OR OTHER SIGNIFICANT CHANGES IN ALIGNMENT SHALL BE BRACED WITH POURED CONCRETE THRUST BLOCKS. FITTINGS WITH RETAINING GLANDS WILL NOT BE ALLOWED.
 2. 1" DIMENSION SHALL BE AS REQUIRED TO REACH UNDISTURBED EARTH BUT NOT LESS THAN VALUE LISTED IN TABLE.
 3. DIMENSIONS "A" AND "B" ARE BASED ON INTERNAL PIPE PRESSURE OF 100 P.S.I. AND BEARING ON THE UNDISTURBED SOIL OF 1500 P.S.F.
 4. "B" = HEIGHT OF THRUST BLOCK
 5. ALL PLUGS SHALL BE SEPARATED FROM THE CONCRETE THRUST BLOCK BY A LAYER OF 5 MIL PLASTIC SHEET
 6. ALL POURED CONCRETE SHALL BE 3000 PSI @ 28 DAYS.

100 P.S.I. TABLE		90° BEND			45° BEND			22-1/2° BEND			11-1/4° BEND			TEE OR PLUG		
SIZE	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	
4" x 6"	2'-0"	1'-4"	9"	1'-6"	1'-0"	6"	1'-1"	0'-8"	6"	0'-9"	1'-7"	1'-0"	2'-5"	1'-7"	1'-0"	
6"	2'-8"	1'-10"	1'-0"	2'-0"	1'-4"	8"	1'-5"	1'-0"	8"	1'-0"	0'-8"	8"	3'-2"	2'-2"	1'-3"	
10"	3'-4"	2'-3"	1'-3"	2'-6"	1'-8"	10"	1'-9"	1'-2"	8"	1'-3"	0'-10"	8"	4'-0"	2'-8"	1'-2"	
12"	4'-0"	2'-8"	1'-6"	3'-0"	2'-0"	1'-0"	2'-2"	1'-5"	8"	1'-6"	1'-0"	8"	4'-10"	3'-2"	1'-11"	
14"	4'-8"	3'-2"	1'-9"	3'-6"	2'-4"	1'-2"	2'-6"	1'-8"	8"	1'-9"	1'-2"	8"	5'-7"	3'-9"	2'-3"	
16"	5'-4"	3'-7"	2'-0"	3'-11"	2'-8"	1'-4"	2'-10"	1'-11"	10"	2'-0"	1'-4"	8"	6'-4"	4'-3"	2'-6"	
18"	6'-0"	4'-0"	2'-3"	4'-5"	3'-0"	1'-6"	3'-2"	2'-2"	10"	2'-3"	1'-6"	8"	7'-2"	4'-9"	2'-10"	
20"	6'-8"	4'-5"	2'-6"	4'-11"	3'-4"	1'-8"	3'-6"	2'-4"	11"	2'-6"	1'-8"	8"	7'-11"	5'-4"	3'-2"	
24"	8'-0"	5'-4"	3'-0"	5'-11"	3'-11"	2'-0"	4'-3"	2'-10"	1'-1"	3'-0"	2'-0"	8"	9'-6"	6'-4"	3'-9"	



TRENCH DETAILS - WATERMAIN



NEW FLUSH MOUNTED HYDRANT

- GENERAL NOTES:**
1. CONTRACTOR TO COMPLETE INSTALLATION OF CONCRETE PADS FOR FLUSH MOUNTED HYDRANTS AFTER COMPLETION OF PAVEMENT CONSTRUCTION.
 2. CONCRETE PAD SHALL BE SLOPED 1.5% MIN. TO DRAIN AWAY FROM THE PAVEMENT.
 3. ALL COMPONENTS SHOWN IN THIS DETAIL ARE PAID FOR UNDER AR760801.

IL. CONTRACT: PA057
IL. LETTING ITEM: 7A
IL. PROJECT: PWK-4407
A.I.P. PROJECT: 3-17-SBGP-XX

SURVEY BOOK # BOOK #

REVISIONS		
NUMBER	BY	DATE
1	JRL	7-15-14

0 1 2
THIS BAR IS EQUAL TO 2" AT FULL SCALE (34X22).

CHICAGO EXECUTIVE AIRPORT
WHEELING/PROSPECT HEIGHTS, ILLINOIS
CONSTRUCT EMAS - RUNWAY 16 END (34 DEPARTURE END)

DRAINAGE AND UTILITY DETAILS
SHEET 3

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CHICAGO EXECUTIVE AIRPORT

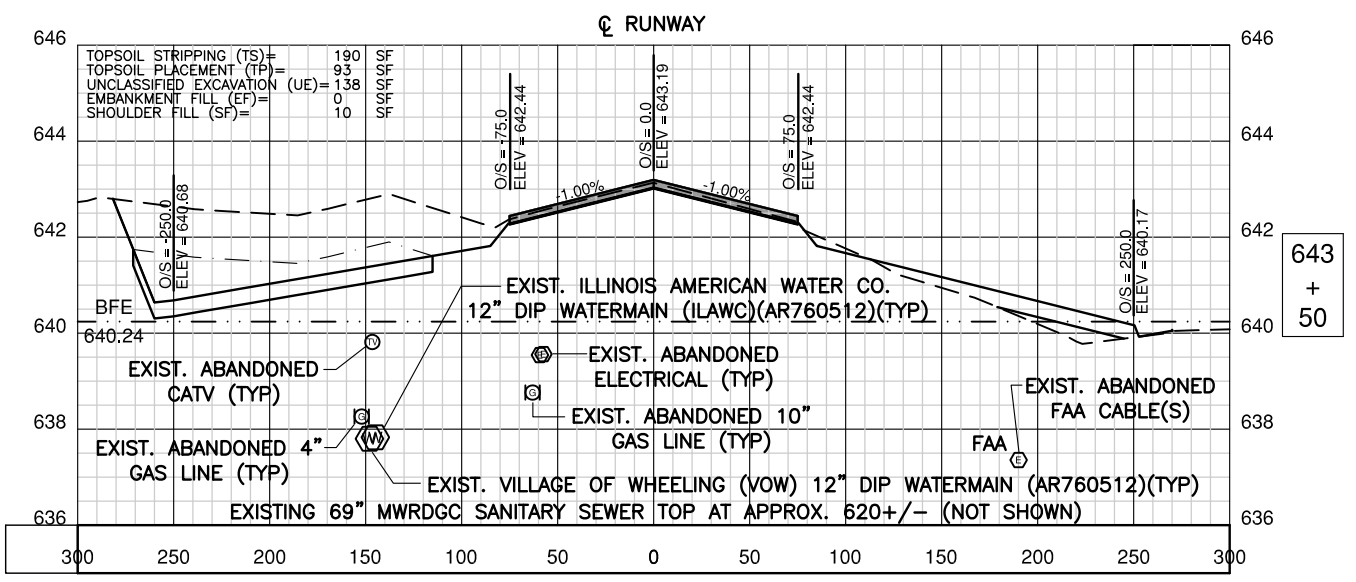
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DRAWN BY: JRO
CHECKED BY: DPK
APPROVED BY: BW
DATE: 7/10/14
JOB No: 11290-02

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SHEET 18 OF 31 SHEETS

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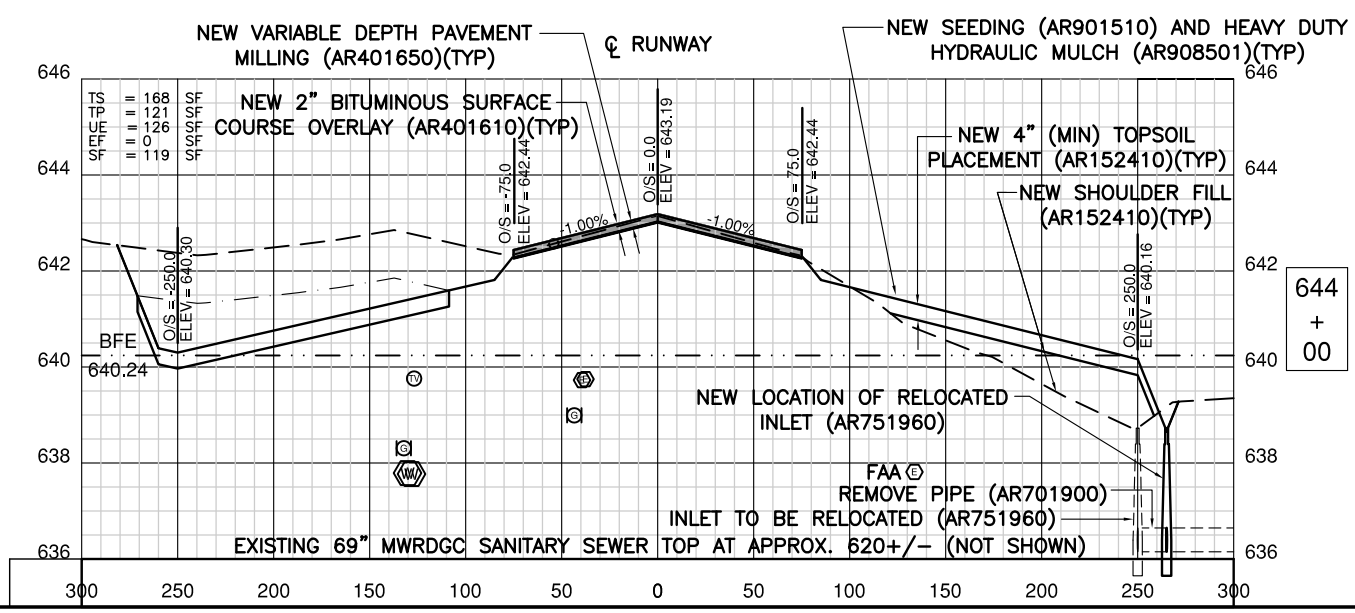
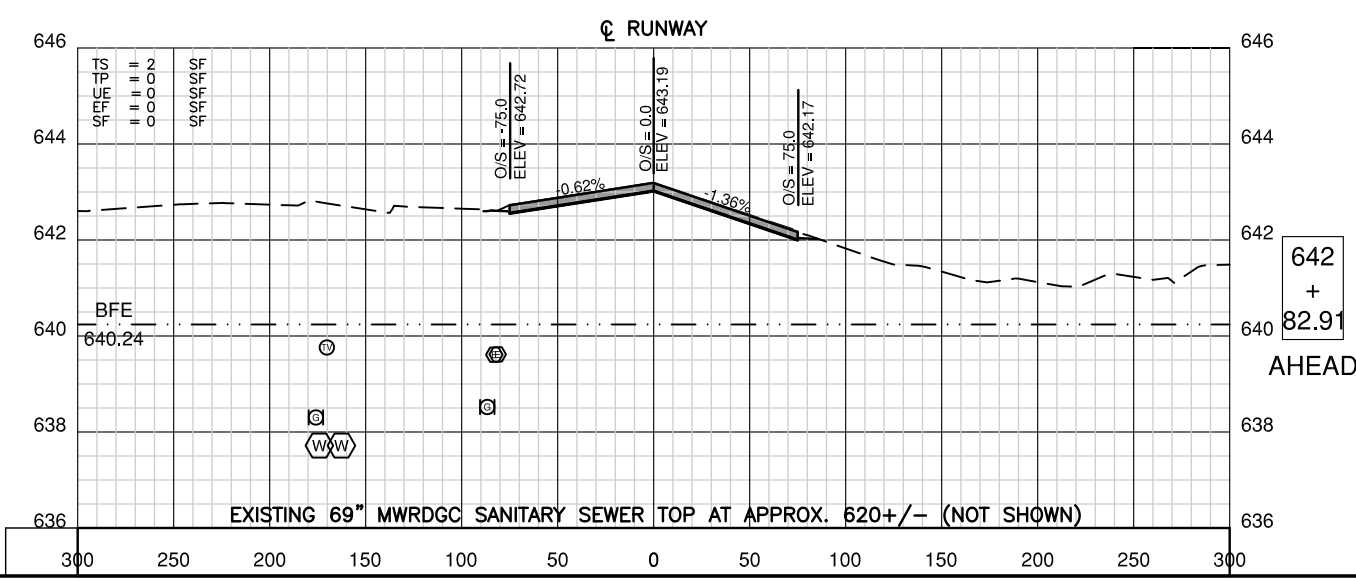
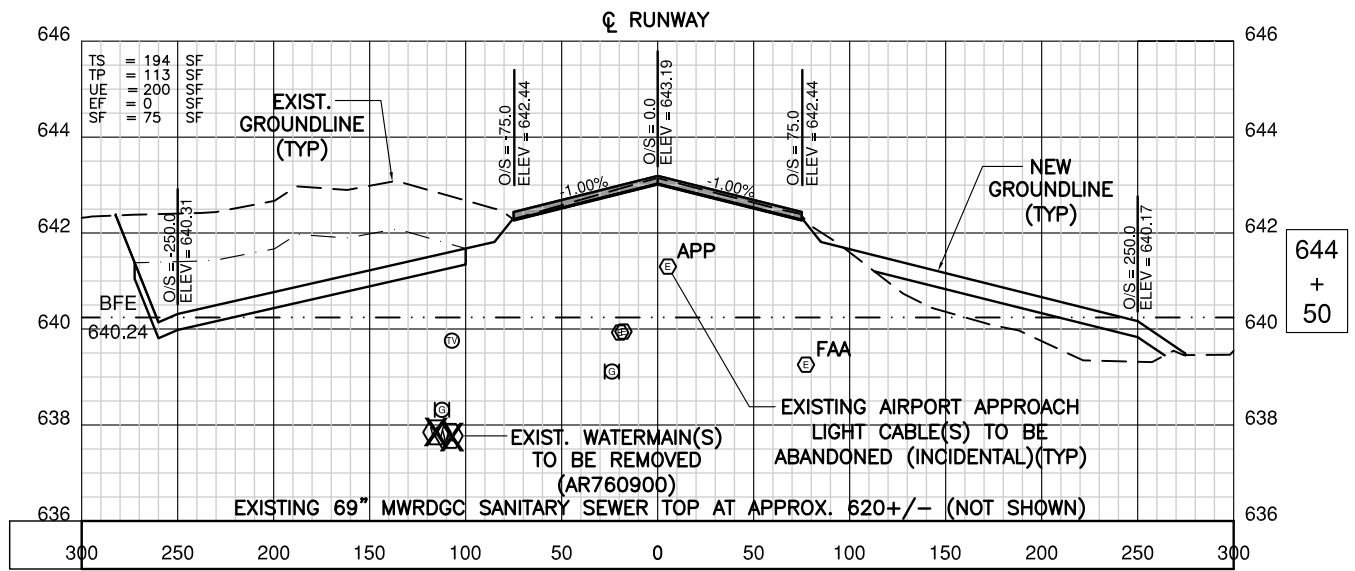
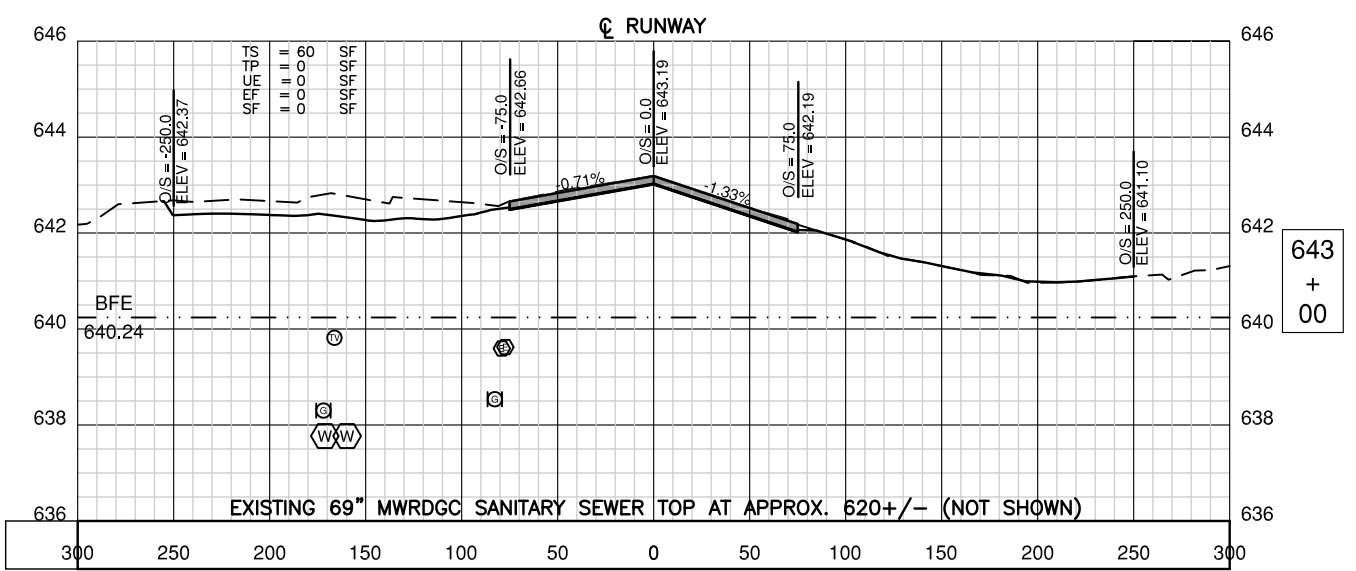
- NOTES FOR ALL CROSS SECTION SHEETS:
- SEE GRADING PLAN FOR MORE ELEVATIONS.
 - NOTE ALL PAVEMENT SHALL HAVE 1-1/2" DROP FROM PAVEMENT TO TURF.
 - SEE EXISTING CONDITIONS AND UTILITY SHEETS FOR UTILITY LOCATIONS, AIRPORT AND FAA ELECTRICAL AND POWER NOT SHOWN.
 - SANITARY AND STORM SEWER BASED ON RECORD DRAWING INVERT INFORMATION.
 - ASSUMED THE FOLLOWING UTILITY DEPTHS FROM EXISTING GROUNDLINE:
 NATURAL GAS = 3'
 CATV & TELECOMMUNICATIONS = 3'
 ELECTRICAL & POWER = 3'
 WATERMAIN = 5'
 - UTILITY SYMBOLS NOT TO SCALE
 - EXISTING GAS LINES (NICOR) NEED TO BE VERTICALLY ADJUSTED AND/OR RELOCATED (BY OTHERS) TO ACCOMMODATE NEW PAVEMENT STRUCTURE, EMAS CONCRETE GRADE BEAM AND R.S.A. GRADING REQUIREMENTS AND REQUIRED UTILITY CLEARANCES.

IL. CONTRACT: PA057
 IL. LETTING ITEM: 7A
 IL. PROJECT: PWK-4407
 S.B.G. PROJECT: 3-17-SBGP-XX

SURVEY BOOK # BOOK #

REVISIONS		
NUMBER	BY	DATE
△	JRL	7-15-14

0 1 2
 THIS BAR IS EQUAL TO 2" AT FULL SCALE (34x22).



CHICAGO EXECUTIVE AIRPORT
 WHEELING/PROSPECT HEIGHTS, ILLINOIS
 CONSTRUCT EMAS - RUNWAY 16 END (34 DEPARTURE END)
 CROSS SECTIONS
 SHEET 1

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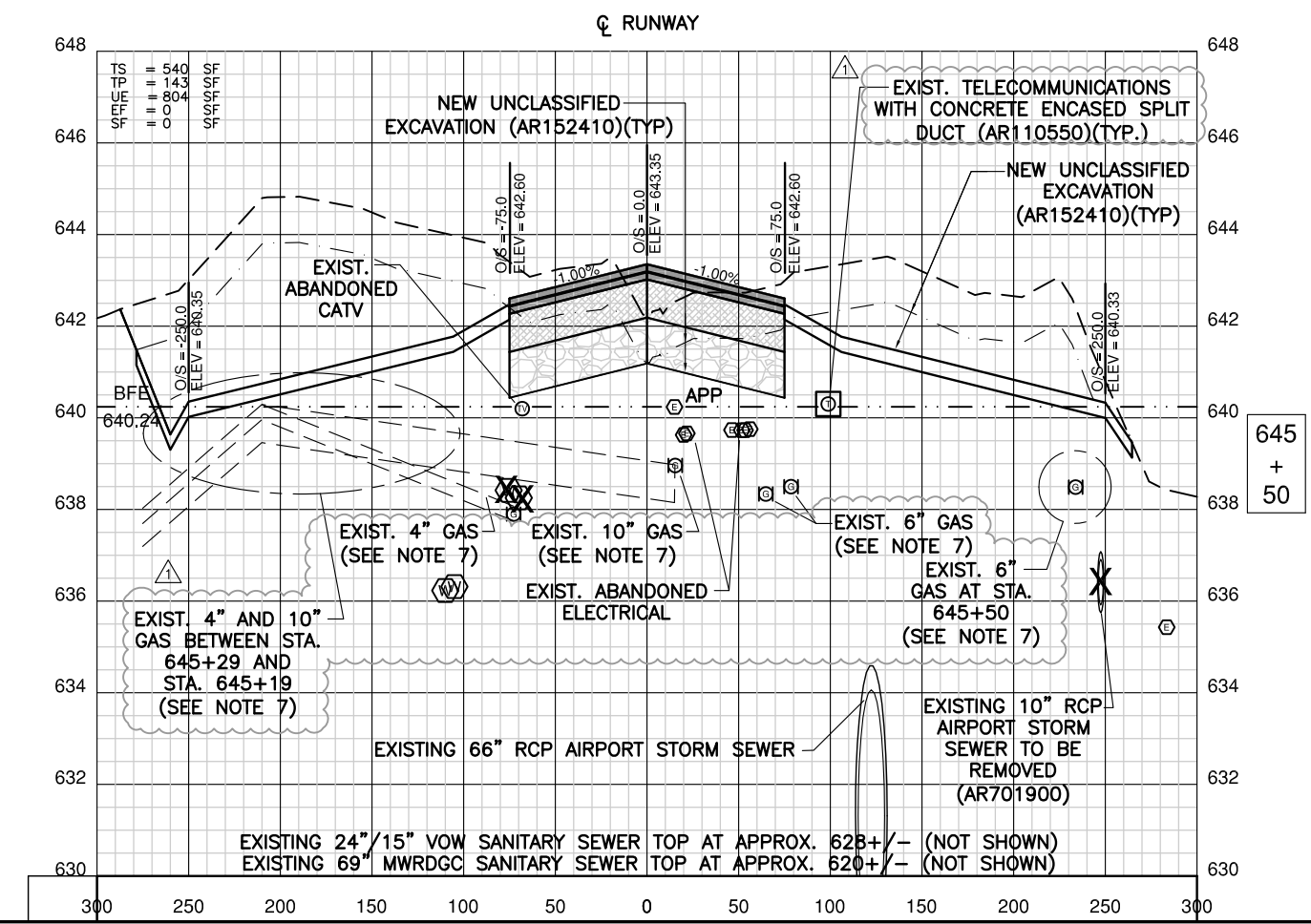
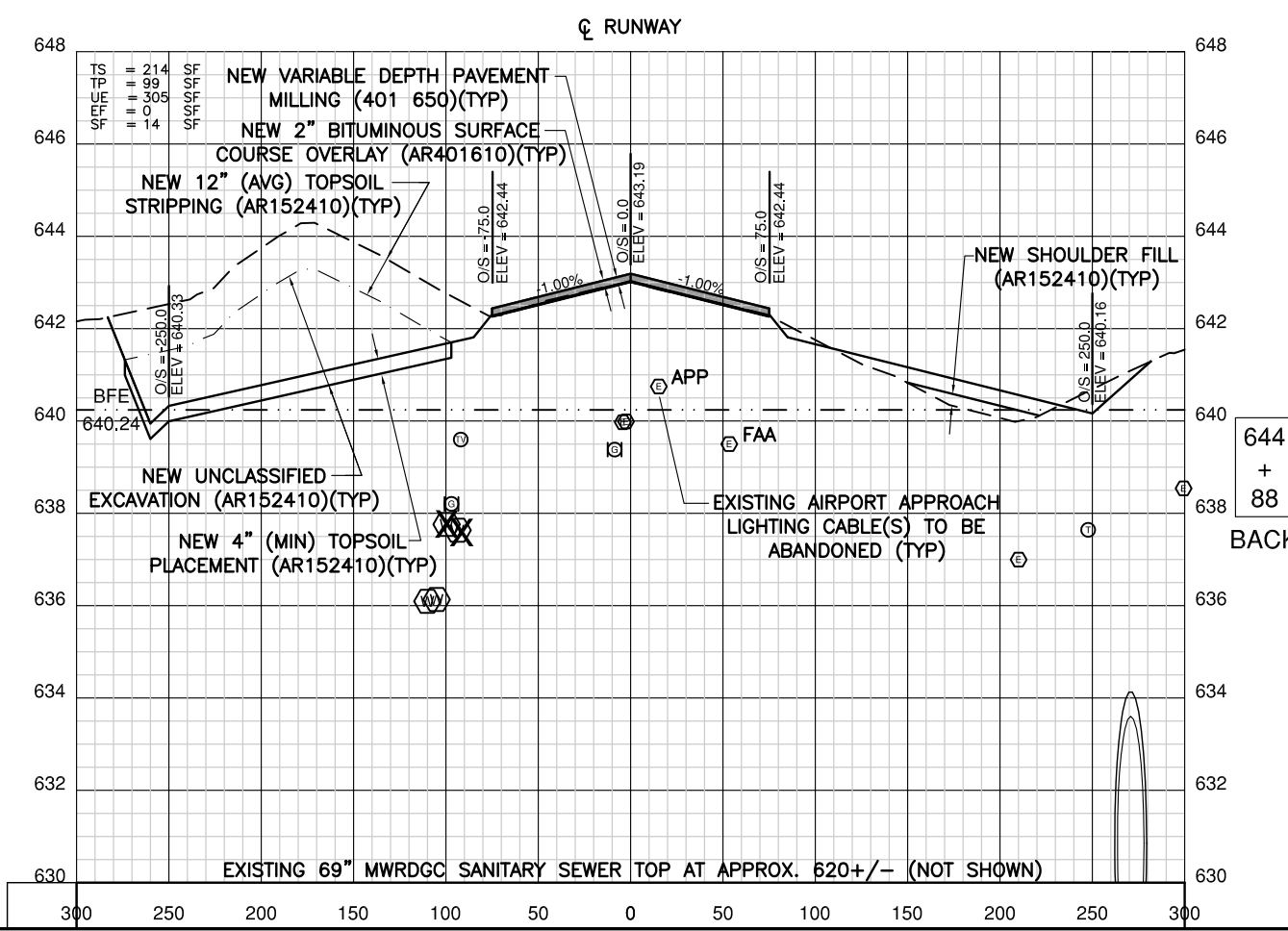
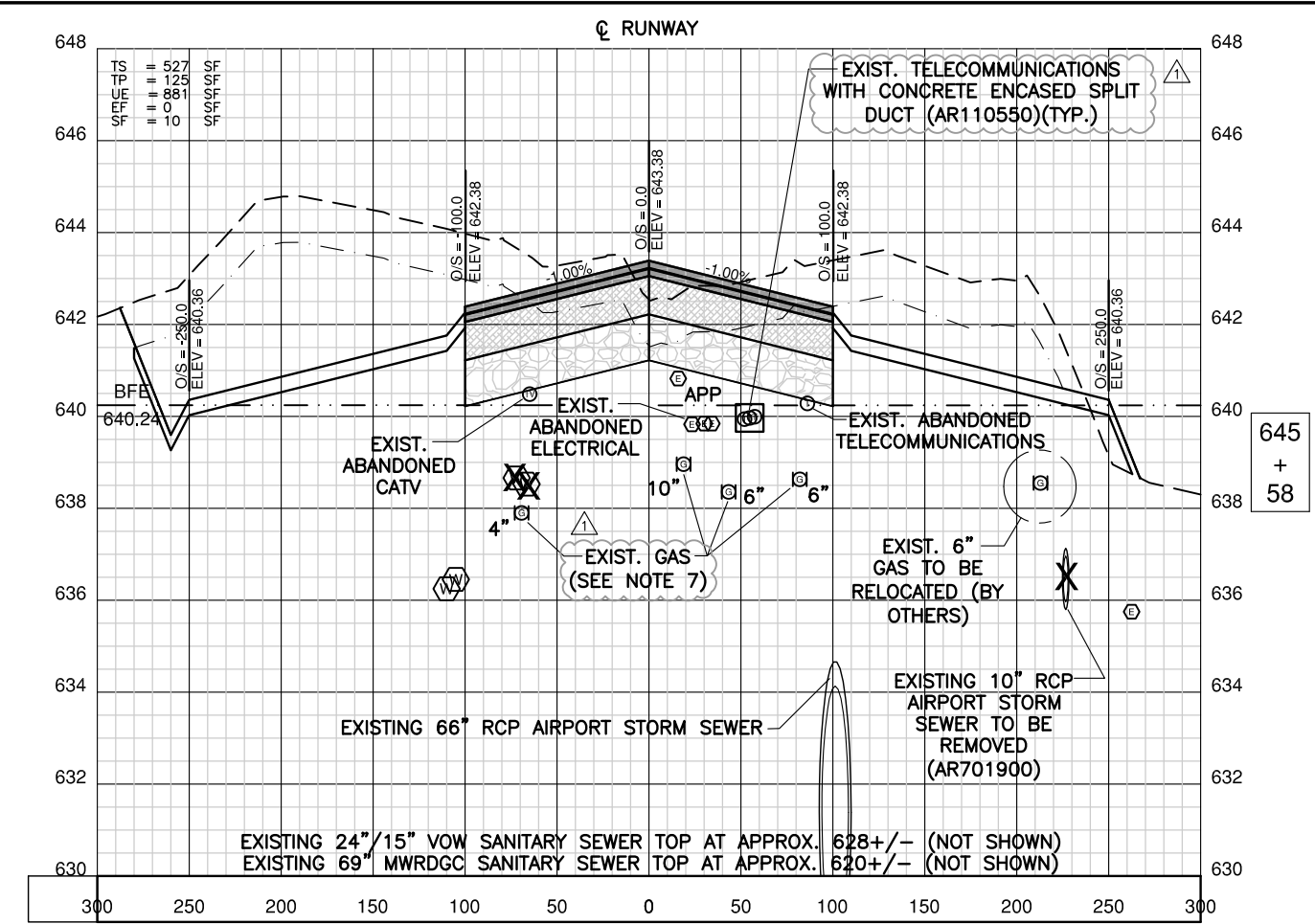
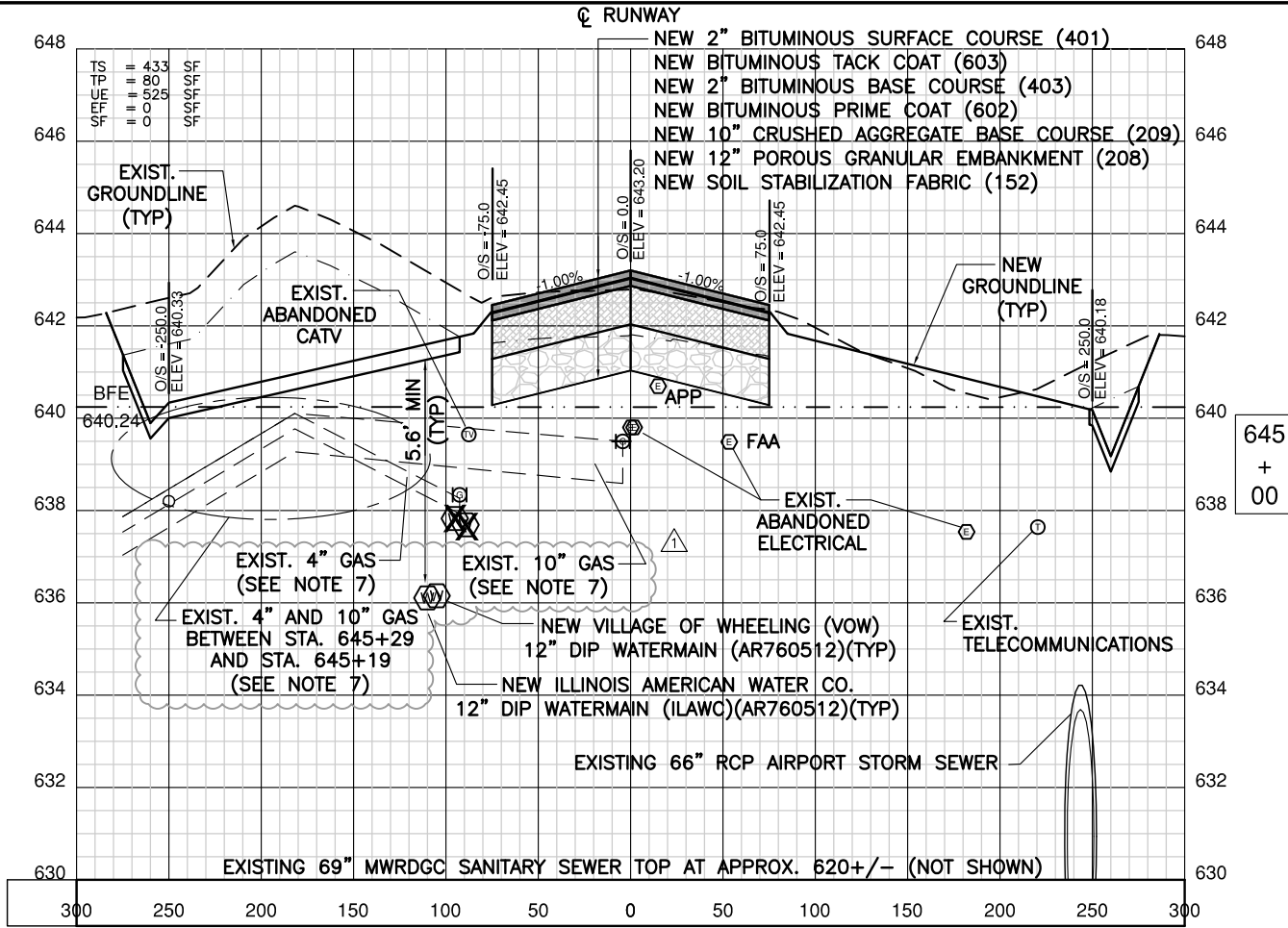
CHICAGO EXECUTIVE AIRPORT

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 DRAWN BY: TS / JRO
 CHECKED BY: DKP
 APPROVED BY: BW
 DATE: 7/10/14
 JOB No: 11290-02

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SHEET 27 OF 31 SHEETS

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IL. CONTRACT: **PA057**
 IL. LETTING ITEM: **7A**
 IL. PROJECT: **PWK-4407**
 S.B.G. PROJECT: **3-17-SBGP-XX**

SURVEY BOOK # BOOK #

REVISIONS		
NUMBER	BY	DATE
△	JRL	7-15-14

0 1 2
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CHICAGO EXECUTIVE AIRPORT
WHEELING/PROSPECT HEIGHTS, ILLINOIS
CONSTRUCT EMAS - RUNWAY 16 END (34 DEPARTURE END)

CROSS SECTIONS SHEET 2

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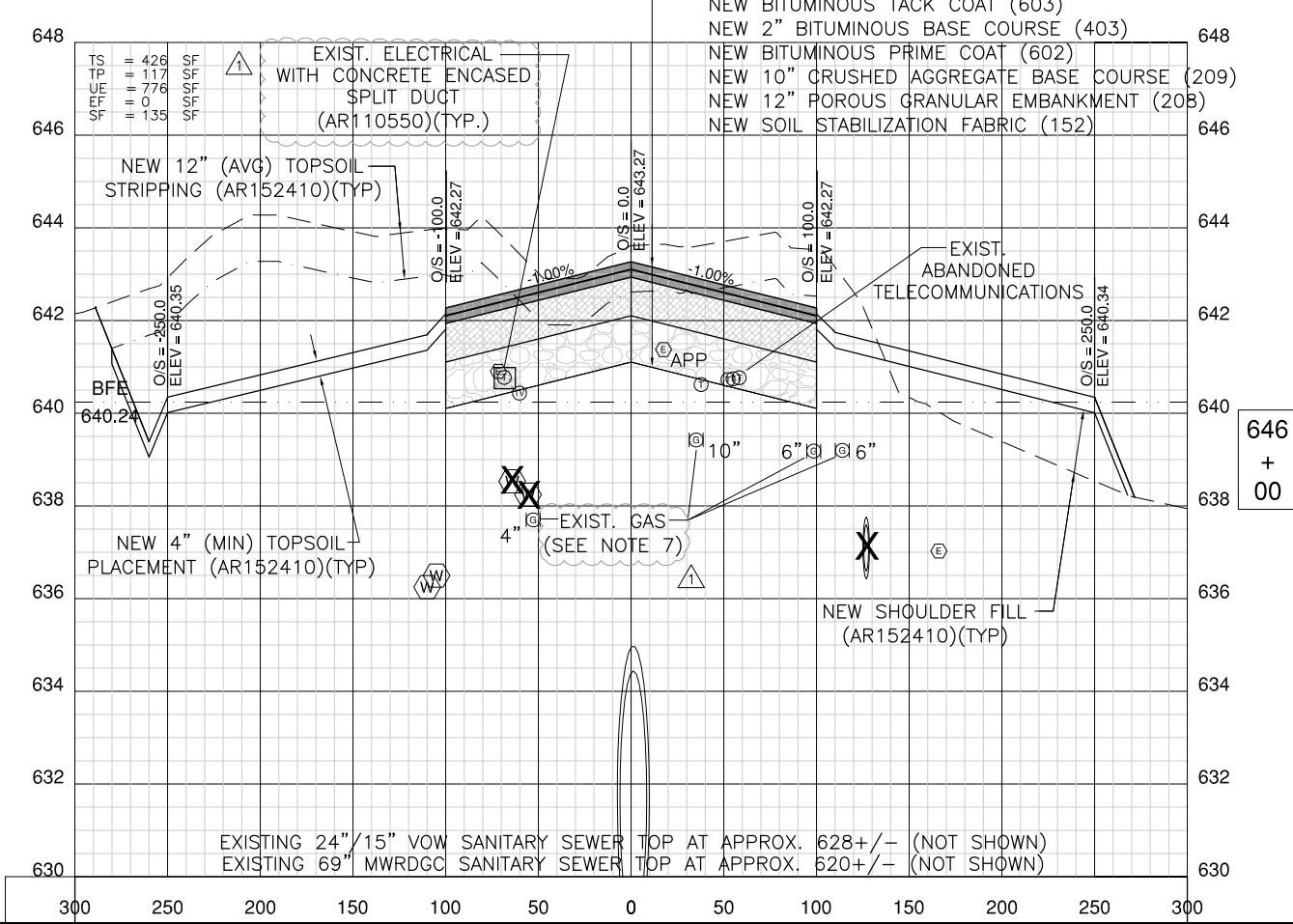
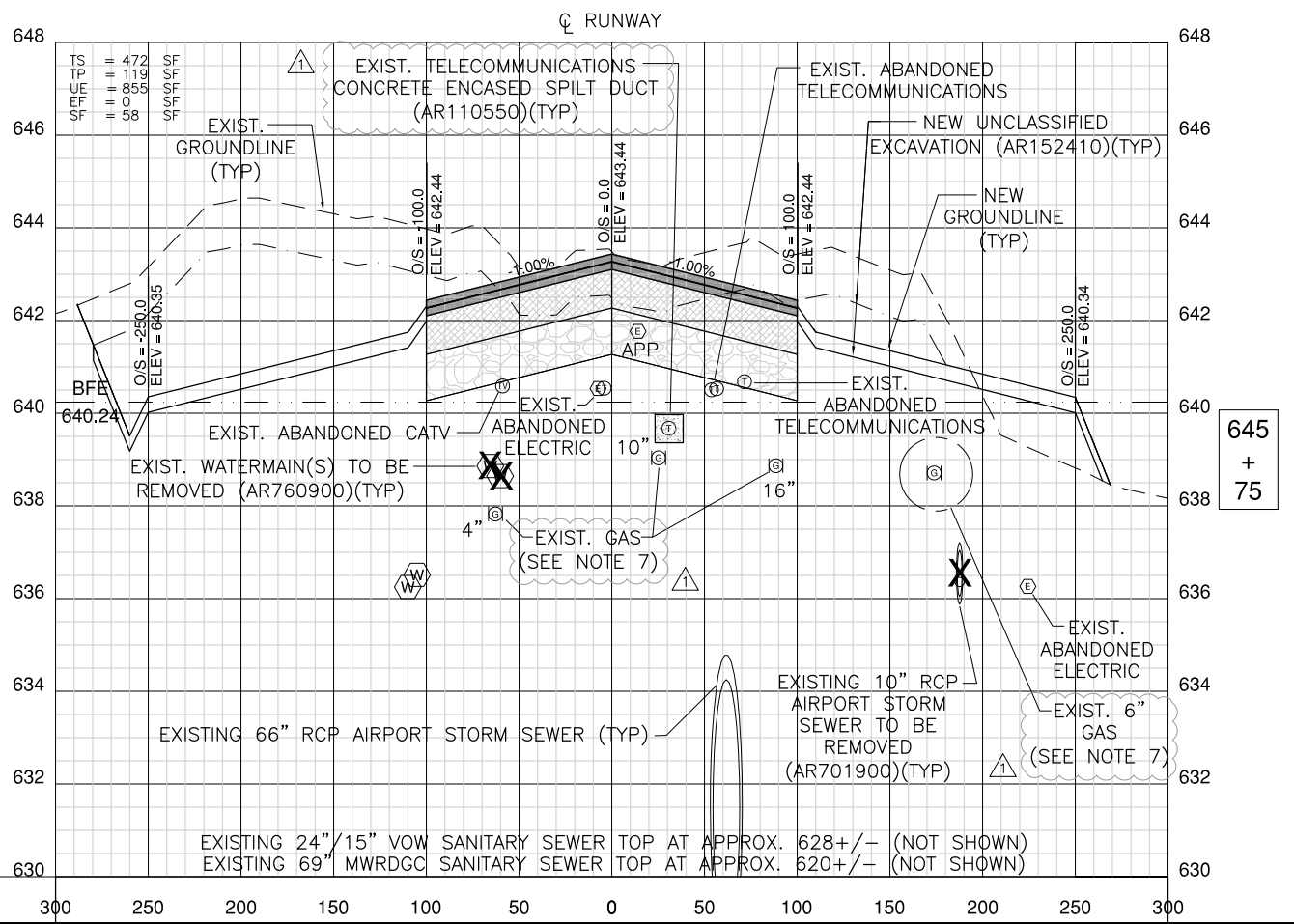
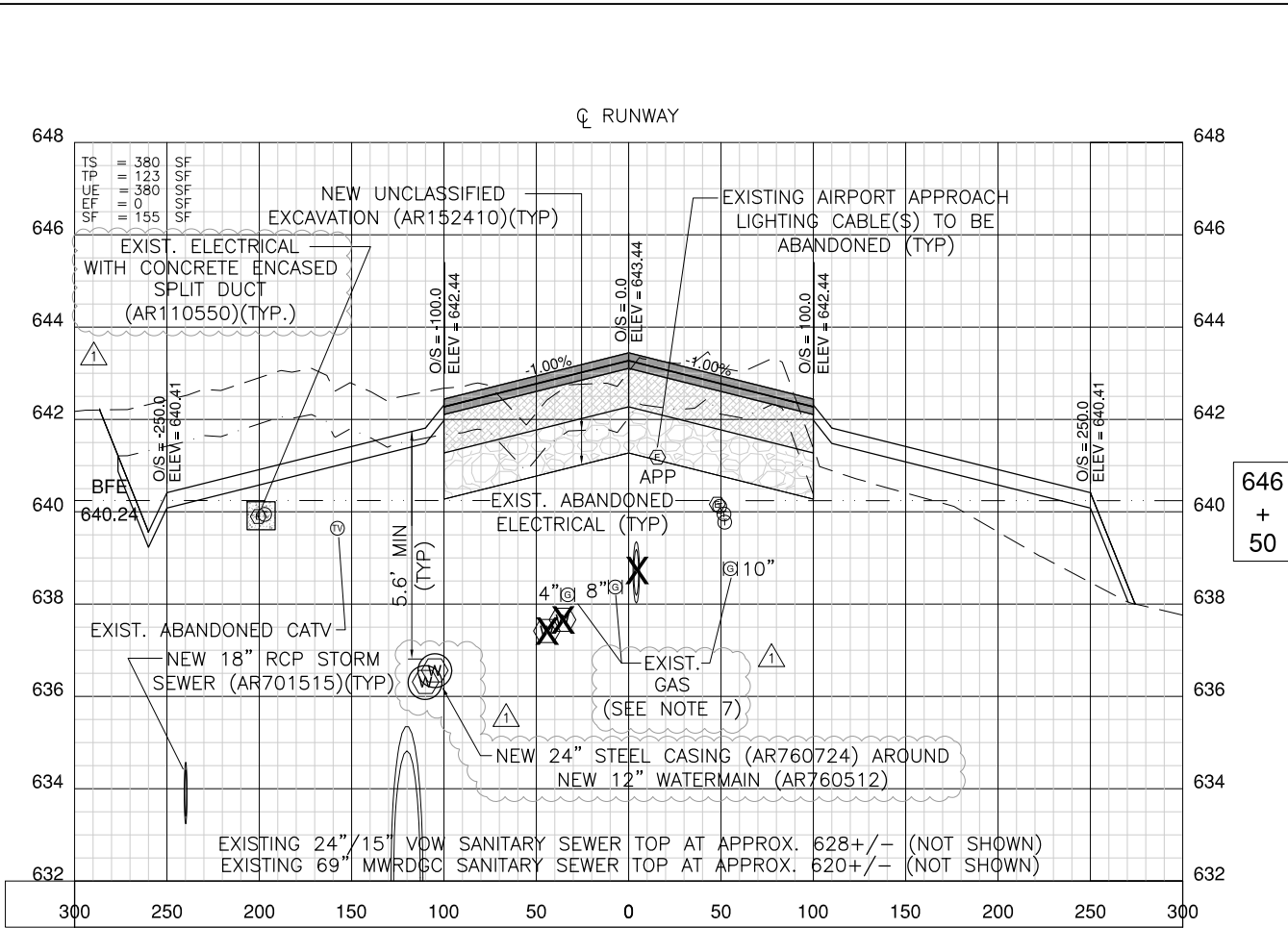
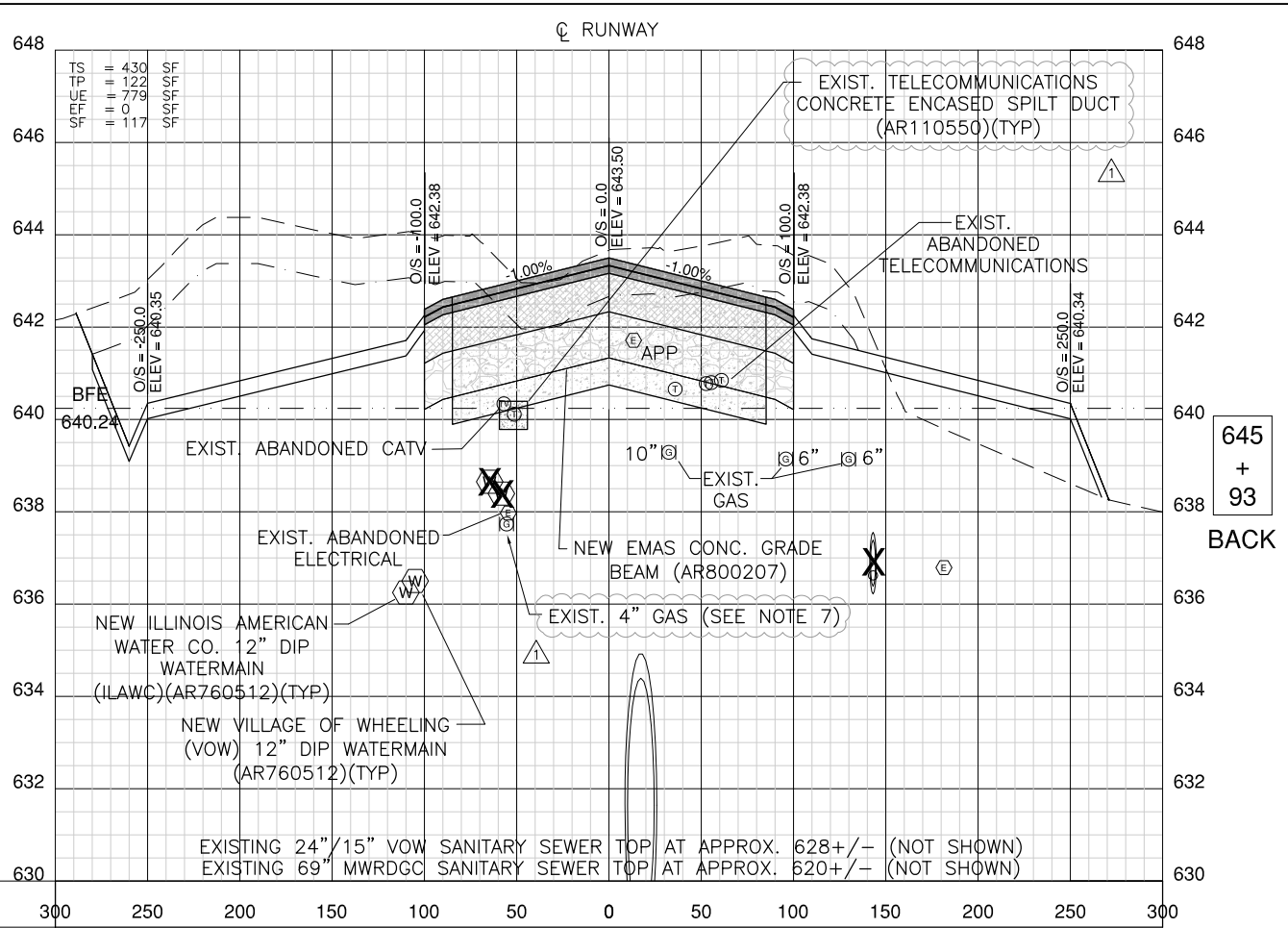
CHICAGO EXECUTIVE AIRPORT

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 JOB No: 11290-02

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SHEET 28 OF 31 SHEETS

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IL. CONTRACT: **PA057**
 IL. LETTING ITEM: **7A**
 IL. PROJECT: **PWK-4407**
 S.B.G. PROJECT: **3-17-SBGP-XX**

SURVEY BOOK # BOOK #

REVISIONS		
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**CHICAGO EXECUTIVE AIRPORT
 WHEELING/PROSPECT HEIGHTS, ILLINOIS
 CONSTRUCT EMAS - RUNWAY 16 END (34 DEPARTURE END)**

**CROSS SECTIONS
 SHEET 3**

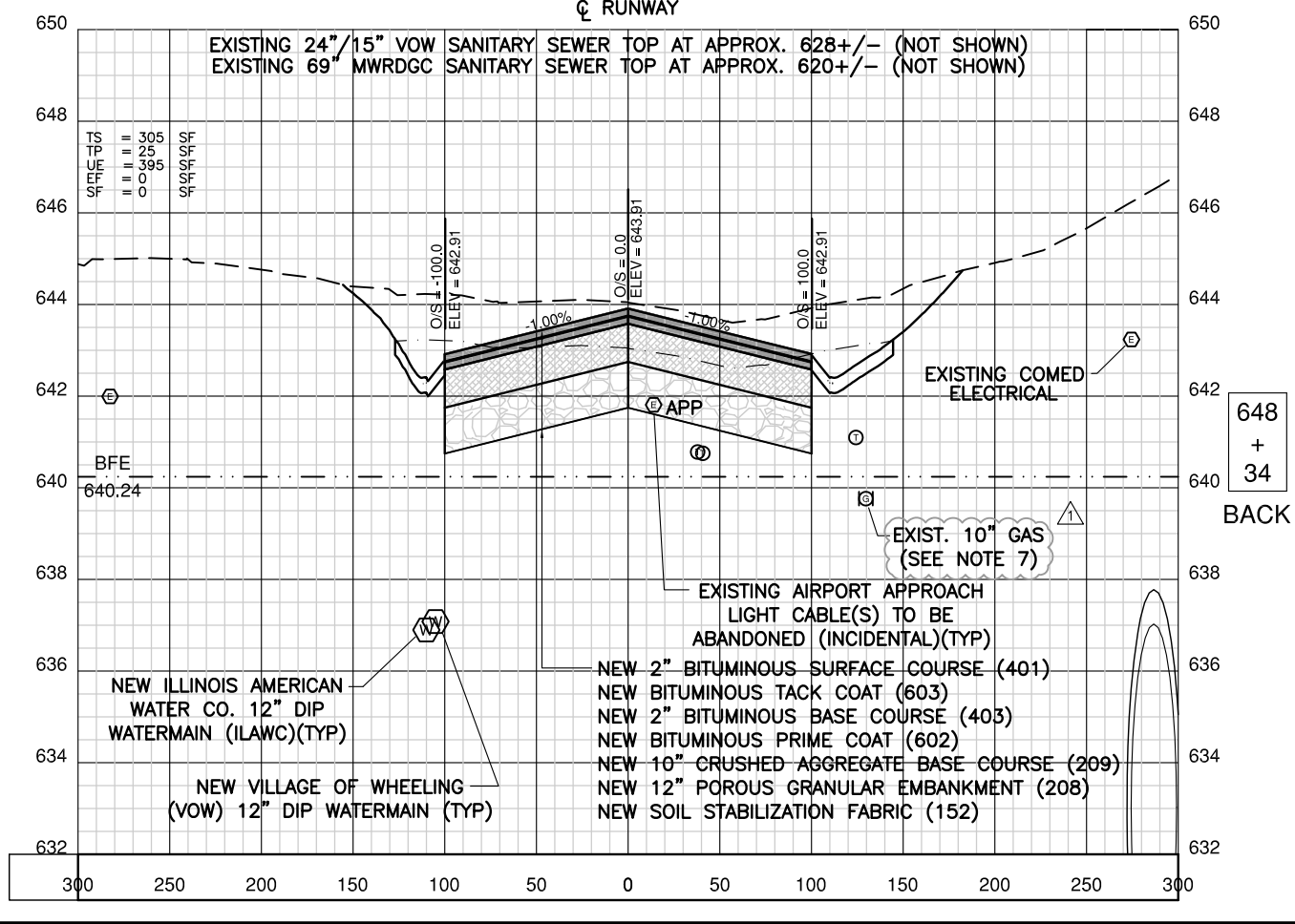
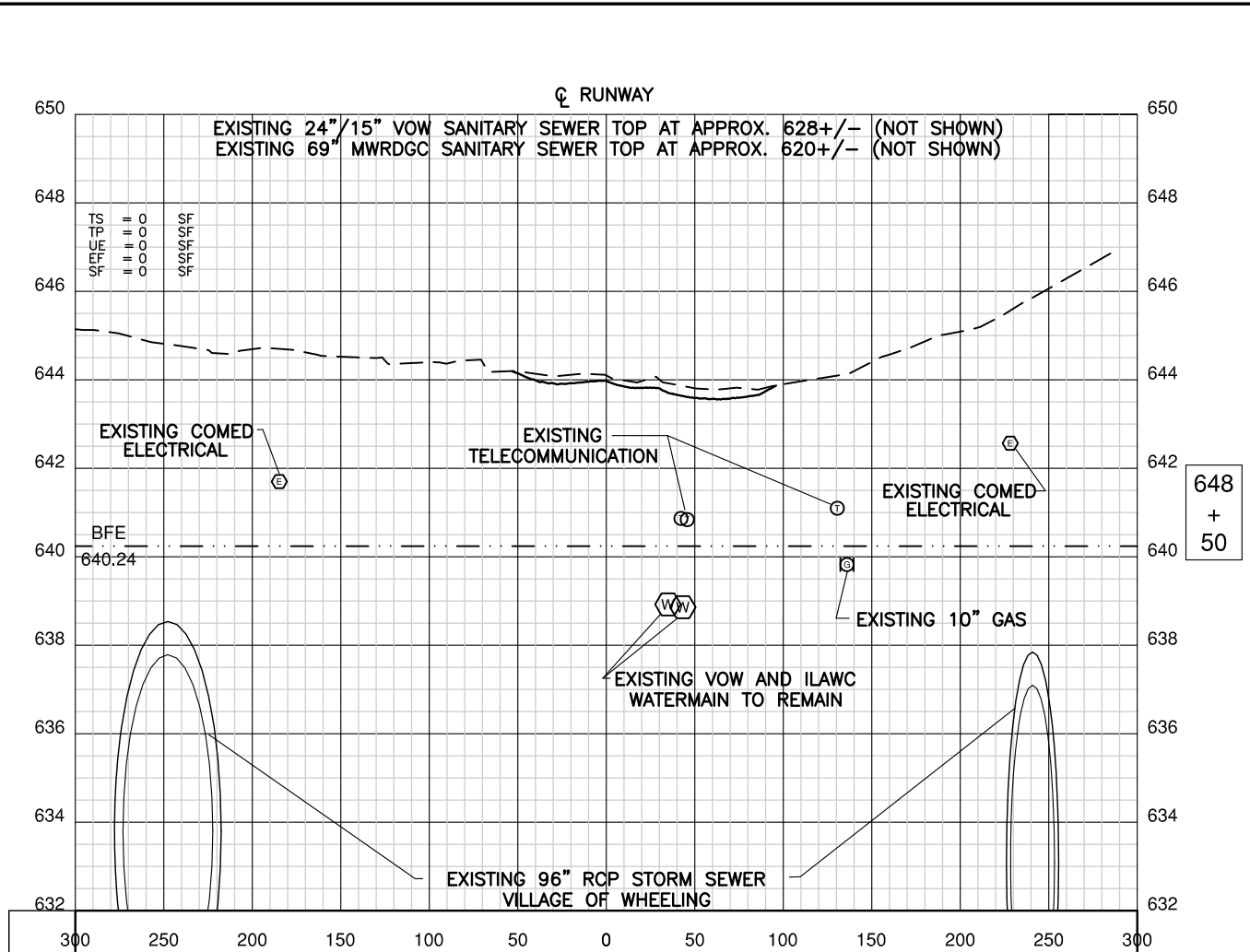
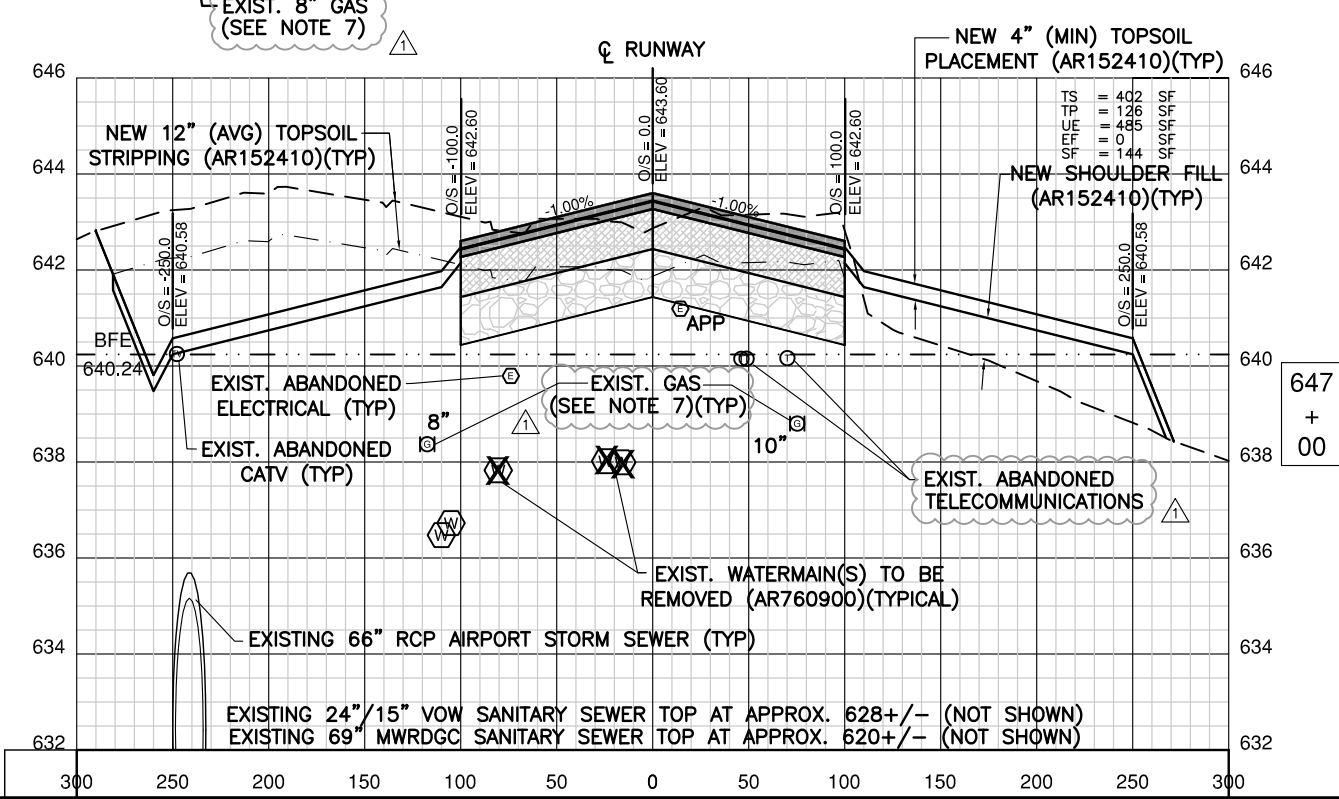
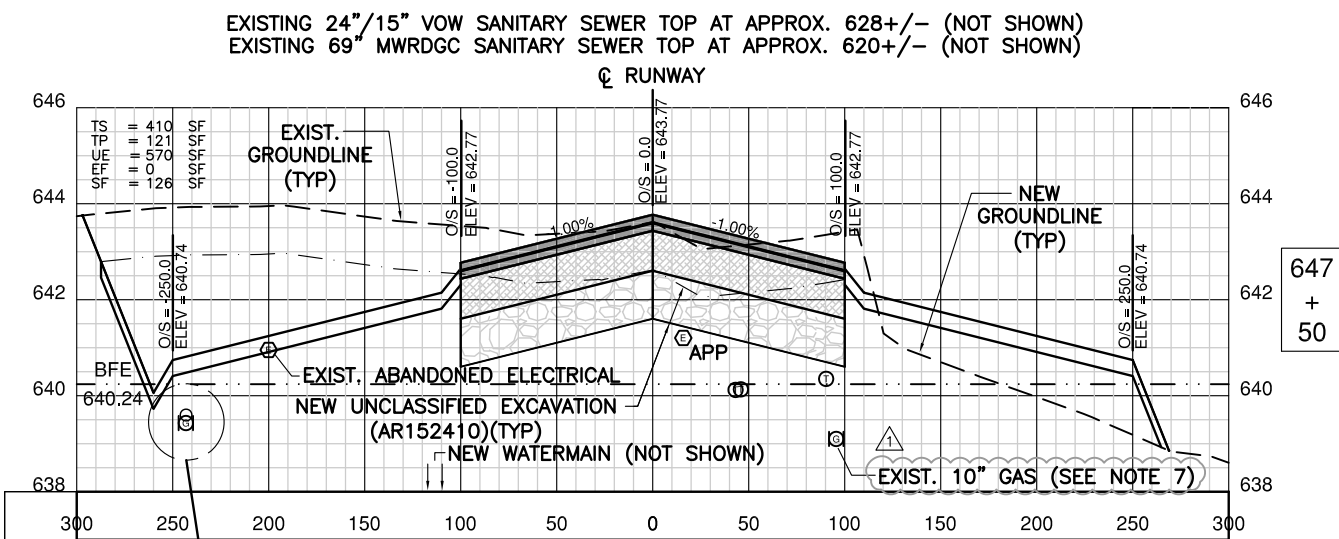
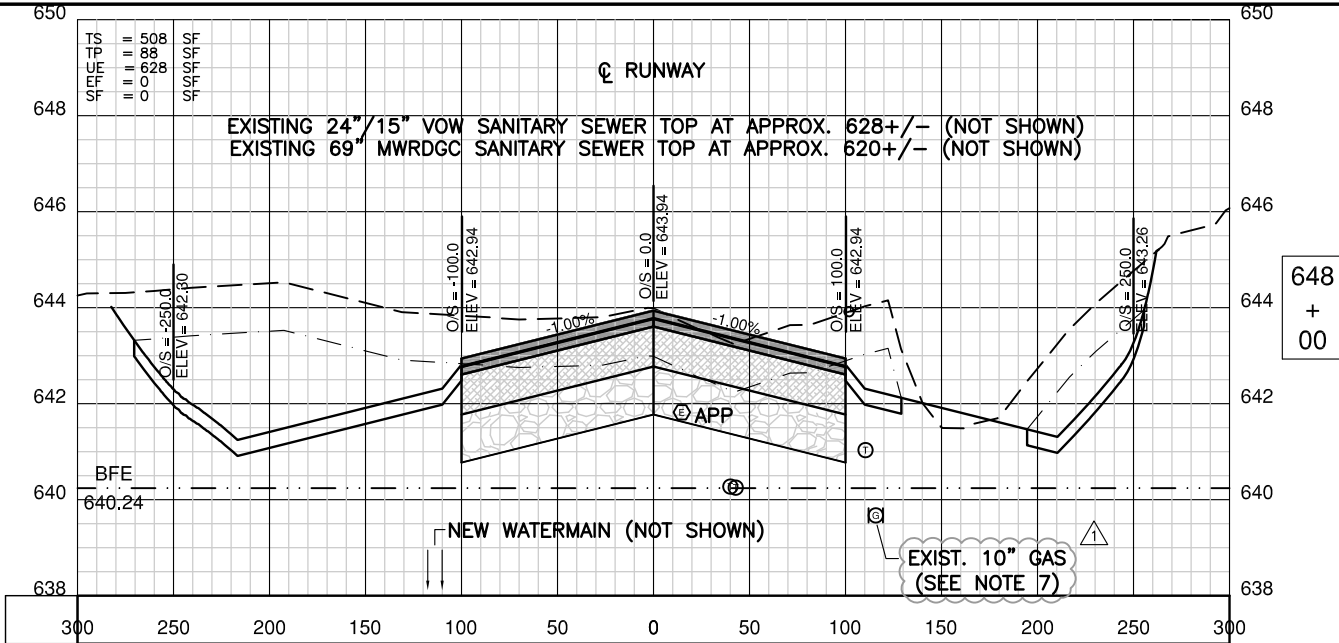
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SHEET 29 OF 31 SHEETS

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IL CONTRACT: PA057
 IL LETTING ITEM: 7A
 IL PROJECT: PWK-4407
 S.B.G. PROJECT: 3-17-SBGP-XX

SURVEY BOOK # BOOK #

REVISIONS		
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CHICAGO EXECUTIVE AIRPORT
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CROSS SECTIONS
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 DATE: 7/10/14
 JOB No: 11290-02

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SHEET 30 OF 31 SHEETS

DIVISION VIII – MISCELLANEOUS

ITEM 760 - WATER MAIN

DESCRIPTION

760-1.1

The Contractor shall furnish and install the proposed ductile iron pipe of the diameter specified at the locations shown on the plans. The ductile iron pipe shall include excavation, granular bedding, installation of the ductile iron pipe, polyethylene wrap, cement lined ductile iron fittings, testing and chlorination of the ductile iron pipe and all incidental work required for a complete and operational piping system.

Select granular backfill will be incidental to this item.

Polyethylene encasement and taping of all joints shall be installed for Illinois American Water Company buried ductile iron pipe piping, fittings and valves as shown on the plans.

Flush hydrants shall be used at all locations on the airfield that will not allow a standard hydrant to be utilized due to height restrictions resulting from wing-tip clearances. Each flush hydrant shall include an auxiliary gate valve. The hydrants shall be connected to the potable water main. Connections shall be in accordance with the "Standard Specifications for Water and Sewer Main Construction in Illinois Specifications" as they relate to water main, water main fittings, valves, etc.

All water main work shall conform to Village of Wheeling or Illinois American Water Company Standards as applicable and as shown on the plans.

Temporary shutoff, protection, removal and associated actions for the removal of the existing affected section of the water main will be incidental to this item.

MATERIALS

760-2.1 DUCTILE IRON PIPE

Ductile iron pipe shall be cement-mortar lined per ANSI A21.4 (AWWA C-104), ductile iron pipe, push-on type, conforming to the requirements of ANSI specification A21.51 (AWWA C-151) Class 52.

Sections of ductile iron pipe shall be connected by means of push-on joints except at those locations noted on the plans requiring mechanical joints, consisting of bells cast integrally with the pipe, which have interior angular recesses conforming to the shape and dimension of a rubber sealing gasket. The interior dimensions of which is such that it will admit the insertion of the spigot end of the joining pipe in a manner that will compress the gasket tightly between the bell of the pipe and the inserted spigot, thus securing the gasket and sealing the joint. Such push-on joints shall be of the following makes or approved equal, conforming to the requirements of A.N.S.I. A21.51 (AWWA C-151).

- (1) Super Bellite - as supplied by Clow Corporation.
- (2) Tyton - as supplied by the U.S. Pipe and Foundry Co.
- (3) Fastite - as supplied by American Pipe Company

The lubricant used in conjunction with the push-on joints shall be of material that is recommended by the suppliers specified above, or an acceptable commercially processed animal fat or vegetable shortening.

760-2.2 BEDDING

Bedding shall meet the IDOT CA-11 gradation unless otherwise approved by the Engineer. The bedding shall be mechanically tamped into place.

760-2.3 BACKFILL

The material used for select granular backfill shall be aggregate meeting the requirements of IDOT CA-6 gradation set forth in Item 208.

760-2.4 IRON FITTINGS

Fittings shall be cement lined, tar coated ductile iron with mechanical rubber gasketed joints rated 250 psi and conforming to AWWA C-110/ANSI 21.20. (Clow, American, U.S. Pipe or approved equal). All fittings shall incorporate retainer glands. All Retainer Glands shall be Tyler or Mueller Class 350 Mechanical Joints with Megalugs.

760-2.5 POLYETHYLENE WRAP

The water main shall be wrapped in 8 mil. thick (minimum) polyethylene wrap in accordance with AWWA C105/A21.55-82 suitable for the appropriate diameter of pipe at locations as shown on the plans.

760-2.6 TAPPING VALVE AND SLEEVE

Tapping Valves - The contractor shall furnish and install a tapping valve at the location shown on the drawings. Tapping valves shall conform to Specification AWWA C509, latest revision, covering gate valves except as modified for passage and clearance of tapping machine cutters. The opening through the valve shall be at least 1/4" larger than nominal valve diameter. The mating valve flange to the tapping sleeve outlet must have a raised male face to insure true alignment of valve and tapping machine. The outlet end of the valve shall have the desired joint connection for the intended pipe.

Tapping valves shall allow full size cutters to be used. Seating of the disc gate shall not require any sliding or wedging to achieve a zero leakage, bottle-tight seal. A maximum of (3) internal moving parts shall be required for operation of the valve. The stem collar must be protected from outside grit, sand, etc., by dual O-rings above the stem collar. There shall also be an O-ring below the stem collar sealing off the lubrication chamber from the line fluid. Pressure energized O-rings to be used in place of flat gaskets on flanged joints in valve body/bonnet.

All ferrous surfaces shall be protected against corrosion by fusion-bonded epoxy coating, minimum 8 mils thick. Coating shall be applied prior to assembly to insure coverage of all exposed areas, including bolt holes.

All tapping valves shall be opened to the left (counterclockwise). Valves shall be as manufactured by Clow or Mueller.

Tapping Sleeves - The Contractor shall furnish and install a mechanical joint tapping sleeve at the location shown on the drawings. Tapping sleeve shall be manufactured from gray cast iron meeting or exceeding ASTM A126 Grade B). Side flange seals shall be of the O-ring type of either round, oval or rectangular cross-sectional shape.

Tapping sleeve shall be used in conjunction with a mating tapping valve from same manufacturer. Outlet flange of sleeve shall be counterbored per MSS SP-60 for true alignment of tapping valve and tapping machine.

All sleeves are to include the end joint accessories and split glands necessary to assemble the sleeve to the pipe. MJ bolts and nuts are to AWWA/ANSI C111/A21.11. No special tools other than standard socket wrench shall be required for assembly of sleeve to main.

Sleeve shall be coated with asphaltic varnish per Federal Specification TT-V-51, Military Specification MIL C-450, or approved equal.

Where pressure connections to existing mains are shown on the plans, the materials and construction requirements shall conform to Sections 46-1 through 46-8 of the Standard Specifications for Water and Sewer Main Construction in Illinois, (latest edition).

760-2.7 VALVE VAULT

All valve vaults shall conform to the Village of Wheeling or Illinois American Water Company standard details and as shown on the plans and specified herein.

Vaults shall be constructed of precast concrete rings and shall be 5' in diameter. Precast manholes shall be monolithic and shall conform to ASTM C-478. Joints between precast sections shall be made with rubber gaskets, cement mortar, or bituminous material. Manhole steps shall be Neenah R-198E cast iron or approved equal or polypropylene coated steel reinforcing rods with load and pull out ratings meeting OSHA Standards. Cast iron frames and covers shall be Neenah R-1030 with Type B lid and "WATER" cast into the top. All valves vaults shall be 60 inches in diameter unless otherwise indicated on plans.

760-2.8 CASING PIPE

At the location shown on the drawings, pipe lines shall be installed in a steel casing pipe. The steel casing pipe shall be bituminous coated and shall be of leakproof construction, capable of withstanding the anticipated loadings. The steel casing pipe shall have minimum yield strength of 35,000 psi and shall meet the requirements of ASTM A139, Grade B. Ring deflection shall not exceed 2% of the nominal diameter. The steel casing pipe shall be delivered to the jobsite with beveled ends to facilitate field welding. The minimum wall thickness of the steel casing pipe shall be .312 inches.

Casing pipe diameter shall be such that there is a minimum of 6" clearance between the largest diameter part of the carrying pipe being installed and the minimum inside diameter of the casing pipe including welds. To facilitate the installation of the inner pipe, that pipe shall be fitted with at least three casing chocks per pipe length. The casing chocks shall be made of corrosion resistant materials and shall have a friction coefficient of 0.12. The casing chocks shall be Model 4810 as manufactured by Power Seal Pipeline Products Corporation of Wichita Falls, Texas, or approved equal.

760-2.9 FIRE HYDRANT – FLUSH MOUNTED

Flush Hydrants - Flush hydrants shall meet the standards of AWWA C502. The hydrants shall be furnished with a main valve opening of 5 1/4". Rated working pressure shall be 150 psi and each hydrant shall be hydrostatically tested to meet a pressure of 300 psi. The flush hydrant shall be flush type for concealment at grade. Flush hydrant shall be furnished with a cast iron box and cover for easy access. The inlet connection shall be mechanical joint with a 6" inlet. The hydrant shall have a single 2 1/2" hose nozzle with threads to match the Chicago Executive Airport hydrant thread, National Standard Thread, and one steamer connection fitted with a 5 " Storz connection fitting. Contractor shall verify and coordinate thread style and pitch. The one-year warranty provisions of the contract apply to this hydrant and its installation.

The hydrant shall be manufactured by Mueller Company and shall be Flush Mount Model A-415 or approved equal.

Auxiliary Gate Valve - The auxiliary gate valve shall be manufactured from the same company that furnishes the auxiliary valves for the standard fire hydrants furnished on this project. The valve shall meet AWWA C509 standards for resilient seated wedge gate valves. The valves shall be 6" size, mechanical joint with Mega-Lug restrained joint or approved equal. A cast iron adjustable valve box shall be furnished with each valve along with an extension stem to allow the operating nut to be within 12" of the surface. Provide one tee wrench for each three valves.

CONSTRUCTION METHODS

760-3.1 DUCTILE IRON PIPE INSTALLATION

The ductile iron pipe shall be installed as detailed on the plans and in accordance with the applicable provisions of the "Standard Specifications for Water and Sewer Main Construction in Illinois" (latest edition). The ductile iron pipe shall be installed to the grades shown on the plans and shall have a nominal minimum depth of cover of five feet six inches (5'-6") from proposed, future or existing grades.

The Contractor shall excavate under the ductile iron pipe bells to assure uniform bearing of the pipe on the bottom of the trench. Granular bedding shall be placed along the entire length of all ductile iron pipe from six (6) inches below ductile iron pipe to the spring line of the pipe. The bedding material shall be incidental to the ductile iron pipe.

If the excavation has been made deeper than necessary, the ductile iron pipe shall be laid at the lower depth, and no additional cost shall be charged to the OWNER for the extra excavation, or for subsequent adjustments to fire hydrants, valve vaults or house services. All excavated materials not needed for backfilling the trenches shall be disposed of by the Contractor.

Water in the trench shall be removed during pipe laying and jointing operations. This cost shall be considered incidental to the water main. Provisions shall be made to prevent floating of the pipe. Trench water shall not be allowed to enter the pipe at any time.

Adequate provisions shall be made for safely storing and protecting all water pipe prior to the actual installation in the trench. Care shall be taken to prevent damage to the pipe castings, both inside and out. Provisions shall be made to keep the inside of the pipe clean throughout its storage period and to keep mud and/or debris from being deposited therein.

All water main crossings shall be in accordance with IEPA separation requirements. Where a water main must cross above an existing sanitary or storm sewer, the invert of the water main shall be a minimum of 18" above the crown of the sewer for at least 10 feet each side of the crossing. Where proper vertical separation is not obtainable the water main shall be encased in steel casing pipe to 10 feet either side of the sewer crossing. The casing pipe shall be 6" greater than the bell diameter of the water main.

Where a water main must cross below an existing sanitary or storm sewer, the crown of the water main shall be a minimum of 18" below the invert of the sewer and encased in steel casing pipe for 10 feet either side of the crossing.

All pipe shall be thoroughly cleaned on the inside before laying. Proper equipment shall be used for the safe handling, conveying and laying of the pipe. All pipe shall be carefully lowered into the trench, piece by piece, by means of suitable tools or equipment, in such a manner as to prevent damage to water main materials and protective coatings and linings. Under no circumstances shall water main material be dropped or dumped into the trench.

The pipe shall be inspected for defects. All lumps, blisters and excess coal tar coating shall be removed from the ends of each pipe, and the inside of the bell.

When connecting joints, all portions of the joining materials and the socket and spigot ends of the joining pipe shall be wiped clean of all foreign materials. The actual assembly of the joint shall be in accordance with the manufacturer's installation instructions. During the construction and until joining operations are complete, the open ends of all pipes shall be at all times protected and sealed with temporary water tight plugs.

The entire section of the pipe shall be pushed forward to seat the spigot end into the bell. After the section of pipe is inserted into the bell (when joining pipe to mechanical joint fittings) the gasket shall then be pressed into place within the bell, being careful to have the gasket evenly located around the entire joint.

760-3.2 BACKFILL

All trenches in the locations described above shall be backfilled with selected granular backfill to a point not less than two (2) feet from the outside edges of existing and proposed pavement and one (1) foot from the outside edges of existing and proposed sidewalk.

Non-paved areas shall be backfilled from the springline with originally excavated material free from rocks, frozen material or large clods and shall be carefully placed and compacted to prevent damage to or the dislodging of the ductile iron pipe.

In paved areas, select granular backfill (from the springline of the pipe to the proposed subgrade) shall be constructed in accordance with the applicable sections of the Specification and shall be considered incidental to the sewer pipe.

The backfill for all trenches shall be compacted by mechanical compaction in no greater than 6" lifts to a minimum of 95% of the Modified Proctor Density in accordance with ASTM-1557.

760-3.3 TESTING

The Contractor shall notify the Village of Wheeling or Illinois American Water Company as applicable and Resident Engineer 48 hours in advance of the testing. A Village of Wheeling/Illinois American Water Company representative and Resident Engineer shall be present at all testing.

Contractor shall pressure test by filling the pipe with clean water under a minimum hydrostatic pressure meeting the requirements of the Village of Wheeling or Illinois American Water Company (as applicable) requirements. The testing shall be in conformance with the "Standard Specifications for Water and Sewer Main Construction in Illinois," Latest Edition.

After completion of the pressure test the Contractor shall conduct a leakage test to determine the quantity of water lost by leakage under the specified test pressure. The leakage test shall be in conformance with the "Standard Specifications for Water and Sewer Main Construction in Illinois," Latest Edition and in conformance with Village of Wheeling/Illinois American Water Company.

When pressure and leakage tests are completed and prior to being placed into service, the ductile iron pipe and appurtenances shall be disinfected by a method of chlorination approved by the Engineer.

Disinfection of the ductile iron pipe shall conform to the "Standard Specifications for Water and Sewer Main Construction in Illinois," Latest Edition and per the requirements of the Village of Wheeling/Illinois American Water Company.

Any defects, cracks or leakage that may develop or may be discovered, either in the joints or in the body of the castings, shall be promptly repaired by the Contractor at his own expense.

760-3.4 IRON FITTINGS

The Contractor shall install ductile iron pipe fittings in accordance with the drawings, the requirements stated herein, and the applicable construction requirements of Division IV of the "Standard Specifications for Water and Sewer Main Construction in Illinois" (latest edition), as follows:

DIVISION IV WATER DISTRIBUTION

Section 40 Pipe for Water Main and Service Connections

Section 41 Pipe for Installation for Water Mains

All fittings which deflect the flow 11-1/4 degrees or greater shall have a thrust block. Thrust blocks shall be poured concrete of the dimensions shown on the drawings and in accordance with the provisions of the "Standard Specifications for Water and Sewer Main Construction in Illinois". Fittings shall be installed with "Megalug" brand retaining glands.

760-3.5 POLYETHYLENE WRAP

The pipe shall be installed in polyethylene encasement in accordance with the installation guidelines in AWWA specifications C105/A21.5-93 and as detailed on the plans.

All fittings shall be wrapped with two layers of polyethylene film which shall be clean and free of soil and aggregates. The film shall not be punctured, streaked or damaged during installation and backfilling otherwise the Contractor shall replace the two layers of film at his own expense.

760-3.6 PIPE AND WATER VALVE REMOVAL

This work shall consist of removal of existing pipes and water valves of various types and sizes. Trenches resulting from removals shall be backfilled and compacted in accordance with Item 152, Excavation and Embankment. Pipe and vaults shall be disposed of by the Contractor off airport property.

760-3.7 CASING PIPE

The carrier pipe within the casing pipe shall be encased with polyethylene film in tube or sheet form. The material and installation procedures shall conform to AWWA C105, latest revision.

After the carrier pipe is installed in the casing, the ends of the casing shall be sealed with a concrete cap or a manufactured end seal as shown on the plans.

760-3.8 FLUSH MOUNTED HYDRANTS

Hydrant shall be installed plumb and on solid bearing. Set box cover flush with finish grade. Locate nozzle toward pavement. Locate valve a minimum of 30" away from hydrant. Provide a drainage pit 24" deep filled with 3/4 inch washed gravel. Encase elbow of hydrant in gravel to 6" above drain opening. Do not connect drain opening to sewer.

Valve shall be installed plumb and on solid bearing. Set valve box cover flush with finish grade.

The hydrant and valve shall be tie rodded together with 3/4" stainless steel rods and nuts.

METHOD OF MEASUREMENT

760-4.1

Ductile iron pipe will be measured per lineal foot, installed, ready for use and accepted by the Engineer. Water main pipe removed will be measured per lineal foot removed as accepted by the Engineer.

Valve vaults and tapping valve and sleeves will be measured per each installed, ready for use and accepted by the Engineer. Valve vaults removed will be measured per each removed and accepted by the Engineer.

24" steel casing pipe will be measured per lineal foot, installed, ready for use and accepted by the Engineer.

Flush mounted hydrants and water valve adjustments will be measured per each installed, ready for use and accepted by the Engineer.

The disposals, polyethylene wrap, fittings, backfill and bedding shall not be measured separately, but shall be considered incidental to the construction of the associated item.

BASIS FOR PAYMENT

760-5.1

Excavation, bedding, installation of ductile iron pipe, connections, compaction, pressure testing, chlorination shall be included and paid for on a water main per lineal foot basis. Said price shall include all labor, materials, equipment and incidentals as shown on the plans and as specified herein to construct a complete and operational piping system.

Payment for iron fittings shall be considered incidental to the proposed water main. This item shall also include all work associated with construction of the thrust blocks and connections to existing water main.

No direct payment will be made for Polyethylene Wrap. The cost of furnishing and installing Polyethylene Wrap shall be considered incidental to the contract unit prices for the respective pay items utilizing the Polyethylene Wrap. These prices shall be full compensation for furnishing all materials and for all preparation, delivering and installation of these materials, and for all labor, equipment and incidentals necessary to complete the item.

Select granular backfill will be incidental to this item. The bedding material shall be incidental to the water main.

24" steel casing pipe shall be paid for on a per lineal foot basis installed and shall include all labor, materials, equipment and incidentals as shown on the plans and as specified herein.

Flush mounted hydrants shall be paid for on a per each basis installed as a complete operational unit including any granular backfill, rods, valves, restrained joints, thrust blocks, flat stone and concrete used to complete the item.

Valve vaults and Tapping valves and sleeves as specified shall be paid for on a per each basis installed as a complete operational unit including any granular backfill, rods, valves, restrained joints, thrust blocks, flat stone and concrete used to complete the item.

Payment will be made under:

ITEM AR760510	10" DUCTILE IRON WATER MAIN	PER LINEAR FOOT.
ITEM AR760512	12" DUCTILE IRON WATER MAIN	PER LINEAR FOOT.
ITEM AR760724	24" STEEL CASING	PER LINEAR FOOT.
ITEM AR760801	FIRE HYDRANT – FLUSH MOUNTED	PER EACH.
ITEM AR760850	WATER VAULT	PER EACH.
ITEM AR760862	12" X 12" TAPPING VALVE & SLEEVE	PER EACH.
ITEM AR760900	REMOVE WATER MAIN	PER LINEAR FOOT.
ITEM AR760907	REMOVE WATER VALVE	PER EACH.
ITEM AR800101	12" X 10" TAPPING VALVE & SLEEVE	PER EACH.

STATE JOB #- - - -

ILLINOIS DEPARTMENT OF TRANSPORTATION
 SCHEDULE OF PRICES
 CONTRACT NUMBER - PA057

ECMS002 DTGECM03 ECMR003 PAGE 1
 RUN DATE - 07/21/14
 RUN TIME - 185048

COUNTY NAME	CODE	DIST	AIRPORT NAME	FED PROJECT	ILL PROJECT
COOK	031	01	CHICAGO EXECUTIVE	3-17-SBGP-XX	PW-K -4407

ITEM NUMBER	PAY ITEM DESCRIPTION	UNIT OF MEASURE	QUANTITY	UNIT PRICE		TOTAL PRICE	
				DOLLARS	CENTS	DOLLARS	CTS
AR108108	1/C #8 5 KV UG CABLE	L.F.	2,800.000 X		=		
AR110202	2" PVC DUCT, DIRECT BURY	L.F.	902.000 X		=		
AR110212	2" STEEL DUCT, DIRECT BURY	L.F.	200.000 X		=		
AR110504	4-WAY CONCRETE ENCASED DUCT	L.F.	180.000 X		=		
AR110550	SPLIT DUCT	L.F.	2,835.000 X		=		
AR110610	ELECTRICAL HANDHOLE	EACH	4.000 X		=		
AR125555	THRESHOLD LIGHTS, INPAVEMENT	EACH	8.000 X		=		
AR125610	REILS	PAIR	1.000 X		=		
AR125907	REMOVE REILS	PAIR	1.000 X		=		
AR150510	ENGINEER'S FIELD OFFICE	L.S.	1.000 X		=		
AR150520	MOBILIZATION	L.S.	1.000 X		=		
AR152410	UNCLASSIFIED EXCAVATION	C.Y.	15,906.000 X		=		
AR152540	SOIL STABILIZATION FABRIC	S.Y.	7,734.000 X		=		
AR156510	SILT FENCE	L.F.	1,596.000 X		=		
AR156511	DITCH CHECK	EACH	6.000 X		=		

CHICAGO EXECUTIVE
COOK

ILLINOIS DEPARTMENT OF TRANSPORTATION
SCHEDULE OF PRICES
CONTRACT NUMBER - PA057

ECMS002 DTGECM03 ECMR003 PAGE 2
RUN DATE - 07/21/14
RUN TIME - 185048

ITEM NUMBER	PAY ITEM DESCRIPTION	UNIT OF MEASURE	QUANTITY	UNIT PRICE		TOTAL PRICE	
				DOLLARS	CENTS	DOLLARS	CTS
AR156520	INLET PROTECTION	EACH	7.000 X		=		
AR156530	TEMPORARY SEEDING	ACRE	6.000 X		=		
AR208515	POROUS GRANULAR EMBANKMENT	C.Y.	2,968.000 X		=		
AR209610	CRUSHED AGG. BASE COURSE - 10"	S.Y.	7,627.000 X		=		
AR401610	BITUMINOUS SURFACE COURSE	TON	1,285.000 X		=		
AR401650	BITUMINOUS PAVEMENT MILLING	S.Y.	3,468.000 X		=		
AR401900	REMOVE BITUMINOUS PAVEMENT	S.Y.	50.000 X		=		
AR401910	REMOVE & REPLACE BIT. PAVEMENT	S.Y.	60.000 X		=		
AR403610	BITUMINOUS BASE COURSE	TON	886.000 X		=		
AR602510	BITUMINOUS PRIME COAT	GAL.	2,288.000 X		=		
AR603510	BITUMINOUS TACK COAT	GAL.	1,623.000 X		=		
AR620520	PAVEMENT MARKING-WATERBORNE	S.F.	20,770.000 X		=		
AR620525	PAVEMENT MARKING-BLACK BORDER	S.F.	6,281.000 X		=		
AR701518	18" RCP, CLASS IV	L.F.	93.000 X		=		
AR701900	REMOVE PIPE	L.F.	540.000 X		=		

CHICAGO EXECUTIVE
COOK

ILLINOIS DEPARTMENT OF TRANSPORTATION
SCHEDULE OF PRICES
CONTRACT NUMBER - PA057

ECMS002 DTGECM03 ECMR003 PAGE 3
RUN DATE - 07/21/14
RUN TIME - 185048

ITEM NUMBER	PAY ITEM DESCRIPTION	UNIT OF MEASURE	QUANTITY	UNIT PRICE		TOTAL PRICE	
				DOLLARS	CENTS	DOLLARS	CTS
AR705506	6" PERFORATED UNDERDRAIN	L.F.	1,100.000 X		=		
AR751540	MANHOLE 4'	EACH	1.000 X		=		
AR751903	REMOVE MANHOLE	EACH	4.000 X		=		
AR751943	ADJUST MANHOLE	EACH	1.000 X		=		
AR751960	RELOCATE INLET	EACH	1.000 X		=		
AR751983	RECONSTRUCT MANHOLE	EACH	1.000 X		=		
AR760510	10" DUCTILE IRON WATER MAIN	L.F.	205.000 X		=		
AR760512	12" DUCTILE IRON WATER MAIN	L.F.	1,140.000 X		=		
AR760724	24" STEEL CASING	L.F.	54.000 X		=		
AR760801	FIRE HYDRANT-FLUSH MOUNTED	EACH	2.000 X		=		
AR760850	WATER VAULT	EACH	5.000 X		=		
AR760862	12" X 12" TAPPING VALVE & SLEEVE	EACH	4.000 X		=		
AR760900	REMOVE WATER MAIN	L.F.	1,200.000 X		=		
AR760907	REMOVE WATER VALVE	EACH	2.000 X		=		
AR770945	ADJUST SANITARY MANHOLE	EACH	1.000 X		=		

CHICAGO EXECUTIVE
COOK

ILLINOIS DEPARTMENT OF TRANSPORTATION
SCHEDULE OF PRICES
CONTRACT NUMBER - PA057

ECMS002 DTGECM03 ECMR003 PAGE 4
RUN DATE - 07/21/14
RUN TIME - 185048

ITEM NUMBER	PAY ITEM DESCRIPTION	UNIT OF MEASURE	QUANTITY	UNIT PRICE		TOTAL PRICE	
				DOLLARS	CENTS	DOLLARS	CTS
AR770985	RECONSTRUCT SANITARY MANHOLE	EACH	1.000 X		=		
AR800062	RELOCATE APPROACH LIGHT	EACH	5.000 X		=		
AR800063	REMOVE APPROACH LIGHT	EACH	2.000 X		=		
AR800101	12" X 10" TAPPING VALVE & SLEEVE	EACH	1.000 X		=		
AR800194	REMOVE ELEVATED RETROREFLECTIVE M	EACH	4.000 X		=		
AR800205	ELEVATED RETROREFLECTIVE MARKER T	EACH	6.000 X		=		
AR800206	ELEVATED RETROREFLECTIVE MARKER T	EACH	28.000 X		=		
AR800207	EMAS CONCRETE GRADE BEAM	L.S.	1.000 X		=		
AR800208	EMAS BED INSTALLATION	L.S.	1.000 X		=		
AR800209	EMAS BED	L.S.	1.000 X		=		
AR901510	SEEDING	ACRE	6.000 X		=		
AR908515	HEAVY-DUTY HYDRAULIC MULCH	ACRE	6.000 X		=		

TOTAL \$

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NOTE:
*** PLEASE TURN PAGE FOR IMPORTANT NOTES ***

CHICAGO EXECUTIVE
COOK

ILLINOIS DEPARTMENT OF TRANSPORTATION
SCHEDULE OF PRICES
CONTRACT NUMBER - PA057

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NOTE:

1. EACH PAY ITEM SHOULD HAVE A UNIT PRICE AND A TOTAL PRICE.
2. THE UNIT PRICE SHALL GOVERN IF NO TOTAL PRICE IS SHOWN OR IF THERE IS A DISCREPANCY BETWEEN THE PRODUCT OF THE UNIT PRICE MULTIPLIED BY THE QUANTITY.
3. IF A UNIT PRICE IS OMITTED, THE TOTAL PRICE WILL BE DIVIDED BY THE QUANTITY IN ORDER TO ESTABLISH A UNIT PRICE.
4. A BID MAY BE DECLARED UNACCEPTABLE IF NEITHER A UNIT PRICE NOR A TOTAL PRICE IS SHOWN.